KAAR, Elmar; ARAK, A., red.; LIIVAND, T., tekhn. red.

[Alvar soils and their utilization] Loodalad ja nende kasutamine. Tallinn, Eesti riiklik kirjastus, 1961. 40 p. (MIRA 15:5)
(Estonia--Soils)

KAAR, E. V.: Master Biol Sci (diss) -- "The forest qualities of 'al'vars' on the island of Saaremaa and possibilities for afforesting them". Tartu, 1958. 26 pp (Acad Sci Estonian SSR, Dept of Biol and Med Sci), 150 copies (KL, No 2, 1959, 119)

KAAR, Kh. [Kaar, H.]; KIRRET, O.; SHVINDLERMAN, G.

Studying the activity of catalysts on the basis of bis-cyclopentadiene compounds of titanium in the polymerization of ethylene. Izv. AN Est. SSR. Ser. fiz.-mat. i tekh. nauk 12 no. 3:295-300 '63. (MIRA 16:11)

1. Academy of Sciences of the Estonian S.S.R., Institute of Chemistry. 2. Corresponding member of the Academy of Sciences of the Estonian S.S. R. (for Kirret).

ACCESSION NR: AP4014226 S/0023/63/000/004/0414/0419

AUTHORS: Kaar, H. (Kaar, Kh.); Kirret, O. (Corresponding member); Schwindlerman, G. (Shvindlerman, G.)

TITLE: A study of the activity of catalytic systems based on bis-cyclopentadienyl titanium compound in the polymerization of ethylene. 2. A study of the activity of the catalytic complex $(C_5H_5)_2TiCl_2$- $(iso\text{-}C_4H_9)_2AlCl$

SOURCE: AN EstSSR. Izv. Ser. fiz.-matem. i tekhn. nauk, no. 4, 1963, 414-419

TOPIC TAGS: polymerization, ethylene polymerization, catalyst, alicyclic compounds, titanium-aluminum catalyst, bis-cyclopentadienyl titanium compound, di-iso-butyl aluminum chloride, hydrochloric acid, alkylaluminum dichloride, polar titanium-aluminum bond

ABSTRACT: The effect of HCl and alkylaluminum chlorides on the performance of the catalytic complex $(C_5H_5)_2TiCl_2$ - $(iso\text{-}C_4H_9)_2AlCl$ in the polymerization of ethylene was investigated. The activity of the catalytic system was plotted on graphs and recorded as the yield of the polymer per 1 Mol of bis-cyclopentadienyl (BCPD) within a time period of 1.5 hours. Preliminary experiments with the polymerization

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ACCESSION NR: AP4014226

of ethylene in toluene by the Ti-Al complex revealed a maximum activity within a 20-40C temperature range. It was found that when either HCl or $RAlCl_2$ were introduced into the reactor previous to the formation of the catalytic Ti-Al complex, the polymerization of ethylene did not take place at all, while the green inactive Ti-Al compound was still formed. Since HCl and $RAlCl_2$ were effective when time was allowed for the formation of an active Ti-Al complex, it is interpreted by the authors as an indication of a certain time element required for the formation of C-Ti bonds. It is assumed that the incorporation of 0.5-1.0 millimole of HCl per 1 millimole of R_2AlCl results primarily in the formation of $RAlCl_2$. The obtained polymers were of linear structure and had a melting point of 133-137C. Infrared spectral analysis revealed that when the catalytic system was stimulated by the addition of $(C_6H_5)_3CCl$ the obtained polyethylene contained a large amount of side branches and of double bonds. Orig. art. has: 3 tables and 4 charts.

ASSOCIATION: Institut khimii Akademii nauk Estonskoy SSR (Institute of Chemistry, Academy of Soiences Estonian SSR)

SUBMITTED: 20Jun63 DATE ACQ: 07Feb64 ENCL: 00

SUB CODE: CH NO REF SOV: 004 OTHER: 006

Card 2/2

ACCESSION NR: AP4043032 S/0023/64/000/002/0148/0153

AUTHORS: Kaar, Kh. (Kaar, H.); Shvindlerman, G. (Schwindlerman, G.)

TITLE: On the interaction of tri-isobutyl of aluminum with alkyl chlorides

SOURCE: AN EstSSR. Izv. Seriya fiziko-matematicheskikh i tekhnicheskikh nauk, no. 2, 1964, 148-153

TOPIC TAGS: aluminum organic compound, alkylation, reaction rate, halide, aromatic hydrocarbon

ABSTRACT: As a sequel to the work of A. G. Pozamantir (Vy*sokomolekulyarny*ye soyedineniya, v. 2, 1026, 1960) and Pozamantir and M. P. Genusov (ZhOKh, No. 4, 32, 1175, 1962) on the sequence of the rate of interaction of alkyl halides in R_3Al, the authors show that the interaction between R_3Al, R_2AlCl or RA_1Cl_2 and alkyl halides,

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ACCESSION NR: AP4043032

being by its nature a nucleophilic substitution at the aluminum atom, is accelerated, on the one hand, when the electrophility of the organoaluminum molecule increases, and on the other hand when the possibility of a C-Cl bond interruption in the RCl increases. The RCl reactivity order is

$$C_2H_5Cl < n\text{-}C_4H_9Cl < iso\text{-}C_5H_{11}Cl < C_7H_{15}Cl < C_9H_{19}Cl <$$
$$< tert\text{-}C_4H_9Cl < CH_2=CH-CH_2Cl < C_6H_5CH_2Cl < (C_6H_5)_3CCl.$$

If the reaction mixture contains aromatic hydrocarbons or groups, the appearance of $RAlCl_2$ and $AlCl_3$ gives rise to Friedel-Craffts reactions followed by an evolution of free HCl. Such a reaction does not occur, however, with the tertiary alkyl halides of the R_3CCl type, probably because of steric hindrance. A reaction mechanism involving various alkyl halides reacting with aluminum tri-isobutyl is suggested. The experimental procedure and the reagents employed

Card 2/3

ACCESSION NR: AP4043032

are described, and the interaction with (iso-C_4H_9)$_3$Al with the six compounds is described and the reaction products are tabulated. Orig. art. has: 3 formulas and 1 table.

ASSOCIATION: Institut khimii Akademii nauk Estonskoy SSR (Institute of Chemistry, Academy of Sciences Estonian SSR)

SUBMITTED: 23Nov63 ENCL: 00

SUB CODE: OC NR REF SOV: 002 OTHER: 002

Card 3/3

ACCESSION NR: AP4043033 S/0023/64/000/002/0154/0159

AUTHORS: Kaar, Kh. (Kaar, H.); Shvindlerman, G. (Schwindlerman, G.)

TITLE: Effect of addition of alcohols on the catalytic activity of the systems $(C_5H_5)_2TiCl_2 + R_3Al$ (or R_2AlCl) in polymerization of ethylene

SOURCE: AN EstSSR. Izv. Seriya fiziko-matematicheskikh i tekhnicheskikh nauk, no. 2, 1964, 154-159

TOPIC TAGS: alcohol radical, catalytic activity, ethylene, titanium compound, catalytic polymerization

ABSTRACT: This study was of interest because alcohols, on the one hand, are capable of dissociation with separation of a proton ($ROH \rightleftarrows RO^- + H^+$), and on the other hand the anion OR^- is capable of replacing Cl in $(C_5H_5)_2TiCl_2$ with formation of a new titanium compound $(C_5H_5)_2Ti(OC_2H_5)Cl$, containing oxygen. It is shown that the activity

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ACCESSION NR: AP4043033

of the bicomponent catalytic system $(C_5H_5)_2TiCl_2$ -- $(iso\text{-}C_4H_9)_2AlCl$ in the polymerization of ethylene increases if a third component selected from the group of alcohols is added to the system after the formation of the catalytic complex. Unlike in the previously observed action of small amounts of HCl or RCl, which interact with the anionic part of the catalytic complex, the influence of the alcohols is also connected with the direct addition of an OR group to titanium. This leads to an increase in the stability of the catalytic complex. The reagents ($Al(iso\text{-}C_4H_9)_3(iso\text{-}C_4H_9)_2AlCl$, and $(C_5H_5)_2TiCl_2$), and also the polymerization of the ethylene, were carried out in accordance with a procedure described previously by the authors (Izv. AN ESSR, Ser. fiz.-matem. i tekhn. nauk, no. 3, 295 and 414, 1963). The experimental procedure is briefly described. Orig. art. has: 1 figure and 4 tables.

Card 2/3

KAAR, Kh. [Kaar, H.]; SHVINDLERMAN, G. [Schwindlerman, G.]

Interaction of triisobutylaluminum with alkyl chlorides. Izv. AN Est. SSR. Ser. fiz.-mat. i tekh. nauk 13 no.2: 148-153 '64.

Effect of the addition of alcohols on the catalytic activity of the systems $(C_5H_5)_2 TiCl_2 + R_3Al$ (or R_2AlCl) during polymerization of ethylene. Ibid.:154-159 (MIRA 17:9)

1. Academy of Sciences of the Estonian S.S.R., Institute of Chemistry.

KAAR, R.

New designs for building light-type hog houses. p. 82

SOTSILKTLIK POLLUMJANDUS. POLLUMJANDUS MINISTEERIUM.
Tallin, Hungary. No. 1, 1958.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 11
November 1959.

Uncl.

KAARAMAA, L.

AGRICULTURE

Periodical: SOTSIALSTLIK POLLUMAJANDUS Vol 14, no. 3, 1959 Feb.

KAARAMAA, L. The norm day or direct wages? p. 100

Monthly List of East European Accessions (EEAI) LC, Vol. 4, No. 5, May 1959, Unclass.

KAARDE, I. A. Prof. and SIARE, R. K., Lecturer
Tartuskiy State University, Veterinary Faculty. (Tartu State Univ, Estonian SSR)
"Treatment of the obstruction of the alimentary tract with water pressure".
SO: Veterinariia 27 (7), 1950, p. 52

KAARDE, I.A.

USSR

A special form of disease—bog disease, and its treatment with cobalt salts. I. A. Kaarde (State Univ., Tartu). *Mikroelementy v Zhizni Rastenii i Zhivotnykh, Akad. Nauk S.S.S.R., Trudy Konf. Mikroelement.*, 1950, 403-8; (Ref. Zhur. Biol., 1952, No. 2, 7 pp.). The so-called bog sickness of farm animals which appeared in areas of the Baltic States in late 1930's is caused by mineral deficiencies with especial emphasis on Co. Treatment with Co salts or addn. of Co to the feed soils (3 kg./hectare) was effective in controlling the disease. Symptoms of the disease are detailed; it occurs usually during the winter and leads to loss in wt., atrophy of muscles, and retarded shedding of body hair.

G. M. Kosolapoff

KAARDE, I.A.

USSR/Medicine - Veterinary FD-1290

Card 1/1 : Pub 137 10/20

Author : Kaarde, I. A. Professor

Title : Prevalance and etiology of toxic hepathodystrophy (TGD) in swine in the Esthonian SSR

Periodical : Veterinariya, 8, 42-43, Aug 1954

Abstract : Prevalance of TGD in swine has been discovered on those farms where improper sanitary-hygienic conditions are tolerated. Spoiled and decomposed remnands of food particles are the principal causes for spread of TGD, because such food contains toxic substances causing inflammation of the intestinal tract. Incidence of this disease is greater among young swine, because their resistance to toxic condition is lower. Greater susceptibility to the disease has been discovered among swine that lack vitamin A_1, vitamin B complex, and vitamin C in their diet.

Institution : Esthonian Agricultural Academy

Submitted :

KHARDE, J.

USSR / Diseases of Farm Animals. Diseases Caused by Helminths. R-2

Abs Jour: Ref Zhur-Biol., No 2, 1958, 7354

Author : V. Ridala, ~~J. Kaarde~~
Inst : Estonian Agricultural Academy
Title : Parasitic Diseases of the Intestinal Tract of Hogs, their Distribution, Treatment and Prophylaxis.

Orig Pub: Sb. nauchn. tr. Est. s-kh. akad. 1956, 2, 175-181 (Est.; Rez. Russk.).

Abstract: Describes parasitological examinations of the bodies of dead hogs and the organs of slaughtered hogs, and those by means of coprological analysis, made for the purpose of determining the types of intestinal parasites of hogs, and the frequency of the diseases caused by them, in

Card 1/2

KAARDE, I., prof., red.; PARRE, Yu.[Parre, J.], kand. vet. nauk, red.; RIDALA, V., prof., doktor vet. nauk, red.; TILGA, V., doktor vet. nauk, red.; LEEK, K., tekhn. red.

[Diseases of swine] Bolezni svinei. Tartu, Izd. Estonskoi sel'-khoz. Akad. i Estonskogo nauchno-issl. in-ta zhivotnovodstva i veterinarii, 1960. 349 p. (MIRA 15:1)

1. Tartu. Eesti pollumajanduse akadeemia. 2. Estonskiy nauchno-issledovatel'skiy institut zhivotnovodstva i veterinarii (for Tilga). 3. Estonskaya sel'skokhozyaystvennaya akademiya (for Ridala).

(Swine—Diseases and pests)

KAARDE, I. A.

"The white muscle disease in lambs in the Estonian SSR and the prevention of same by means of sodium selenite."

report to be submitted at the 17th World Veterinary Congress, Hanover, West Germany, 14-21 Aug 63.

KAARDE, I.A., prof.; KHERUVIMOV, V.P.; SEVRUK, O.; LUZYANIN, D.; LESNIK, E.; POTAPOV, V.M.; SIKORSKIY, A.N.

Brief news. Veterinariia 41 no.6:122-125 Je '64. (MIRA 18:6)

KAARDE, J., prof.; REIDLA, K., kand. vetern. nauk, zam.dots.; SEPP, V., kand. veter. nauk, st. uchitel'; AVARSOO, H., red.; KOHU, H., tekhn. red.

[Veterinary physiotherapy] Veterinarfusioteraapia. Tallinn, Eesti Riiklik Kirjastus, 1963. 191 p. (MIRA 17:1)
(Veterinary medicine)

USSR / Plant Diseases. General. O

Abs Jour: Ref Zhur-Biol., No 13, 1958, 58836.

Author : Kaarep, E.
Inst : Estonian Scientific Research Institute of Farming and Agricultural Improvement.
Title : Recent Diseases of Plants in the Estonian SSR.

Orig Pub: Teaduslik-Tehn. inform büll. Eesti Maaviljeluse ja Maaparanduse Teadusliku Uurimise Inst., Byul. nauchno-tekh. inform. Est. n.-i. in-t zemled. i melior., 1957, No 1, 19-24.

Abstract: The tomato root rot (Vermicularia tramentaria Berk. et Br.) was detected in Tallinn in 1954. From the tomato diseases, the cucumber mozaic virus, besides the widely distributed tobacco mozaic virus, became widespread as a disease

Card 1/3

1

KAAREP, E.

USSR/Plant Diseases. - Disease of Cultivated Plants. O-3

Abs Jour : Ref Zhur - Biol., No 15, 1958, 68558

Author : Kaarep, E.
Inst :
Title : Bitter Rot in the Plum (Caused by Colletotrichum fructigenum (Beck.) Vassil.) --- A New Disease in the Estonian SSR.

Orig Pub : Bots. polluma.jandus, 1958, No 1, 32.

Abstract : No abstract.

Card 1/1

- 15 -

KAAREP, K.

Using movable glass-covered propped hothouses. p. 133.

SOTSIALISTLIK POLLUMAJANDUS. (Pollumajanduse Ministeerium) Tallinn, Estonia. Vol. 13, no. 3, March 1958.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 11, November 1959.

Uncl.

KERES, Leida; KAARI, Haldja; PARN, A., red.; KASEMETS, O., tekhn. red.

[Manual for pediatricians] Juhendeid lastearstile. Tallinn, Eesti riiklik kirjastus, 1962. 331 p. (MIRA 15:5)
(PEDIATRICS)

KAARLI, K.

Chemical elements for ensiling should be used efficiently. p.448

SOTSIALISTLIK P'LLUMAJANDUS. Tallinn, Estonia. Vol. 14, no. 10, May 1959

Monthly List of East European Accessions (EEAI) LC. Vol. 8, No. 9, September 1959
Uncl.

AAMISEPP, I.; EICHENBAUM, E.; HALLER, E.; KAARLI, K.; KIIK, H.; KIVI, V.; KOTKAS, H.; KORJUS, H.; LEIVATEGIJA, L.; LIIV,J.; LÄNTS, L.; MÄLKSOO, A.; PEDAJA, V.; POLNA, H.; RANDALU, I.; RUUGE, J.; SEKSEL, H.; TOOMRE, R.; TUPITS, H.; TUUL, S.; TÕNISSON, H.; TÄÄGER, A.; VIIRAND, M.; VAHENÕMM, K.; ARAK,A., red.

[Plant breeding] Taimekasvatus. Tallinn, Eesti Raamat, 1964. 813 p. [In Estonian] (MIRA 18:1)

KAARMA, Iokhannes Yanovich; OSIN, Nikolay Petrovich; LAANMYAÄ, Vambola Eduardovich [Laanmäe, V.]; MAGON, E.E., red.; BARANOVA, L.G., tekhn. red.

[Estonian meat-type swine] Estonskaia bekonnaia poroda svinei. Leningrad, Sel'khozizdat, 1962. 109 p. (MIRA 16:4)
(Estonia—Swine breeding)

JANES, Hans; KAASIK, Paul; PUUSEPP, Eugen; VOLDEK, Aleksander; VORK,H., prof., retsenzent; OORN, F., inzh., retsenzent; ARO, L., red.; VAHTRE, I., tekhn. red.

[Electric machinery] Elektrimasinad [By] H.Janes ia teised. Tallinn, Eesti riiklik kirjastus, 1961. 647 p. (MIRA 15:5)
(Electric generators) (Electric transformers)

NESGOVOROVA, Ye.D., kand.tekhn.nauk; KAASIK, P.Yu., kand.tekhn.nauk; PARTS, R.R., inzh.; BORISOV, A.P., inzh.

Basic principles for designing regulated asynchronous motors. Vest. elektroprom. 32 no.4:68-71 Ap '61. (MIRA 15:5)
(Electric motors, Induction)

KAASIK, Paul' Yuliusovich; NESGOVOROVA, Yelena Dmitriyevna; USSER, A.S., kand. tekhn. nauk, red.

[Regulated squirrel-cage induction motors in automatic control systems] Upravliaemye asinkhronnye dvigateli s belich'ei kletkoi na rotore v sistemakh avtomatiki. Moskva, Energiia, 1965. 198 p. (MIRA 18:6)

KAAZIK, P.A. [Kaasik, P.A.], inzh. BUTKEVICH, Yu.M., inzh. (Tallinn)

Stamp for inclined washers. Stroi.pred.neft.prom. 2 no.8:25-26 Ag '57. (MIRA 11:1)

(Tallinn--Washers (Mechanics))

KAASIK P. Yu.

KAASIK, P. Yu.

Kaasik, P. Yu.

"Investigation of Supplemental Dispersion and Supplemental Losses in the Loading of Asynchronous Machinery." Min Higher Education USSR. Leningrad Polytechnic Inst imeni M. I. Kalinin. Leningrad, 1955. (Dissertation of the Degree of Candidate in Technical Sciences.)

SO: Knizhnaya Letopis', No. 27, 2 July 1955

SOV/144-59-7-4/17

AUTHORS: Nesgovorova, Ye.D., Cand. Tech. Sci., Docent; and Kaasik, P.Yu., Cand. Tech. Sci., Aspirant

TITLE: Calculation of the Mechanical Characteristics of Miniature Induction Motors

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Elektromekhanika 1959, Nr 7, pp 31-35 (USSR)

ABSTRACT: Induction-type miniature motors or fractional horsepower (f.h.p.) induction motors are widely used in automatic control systems and elsewhere. Such characteristics of these motors as their inductance and resistance are different from those of normal induction motors and so the usual formulae may not always be suitable for calculating their mechanical and other characteristics. This article is concerned with the formulae for calculation of electromagnetic torque of f.h.p. motors. Most Soviet designers use the L-network equivalent circuit for an induction motor, proposed by Acad. M.P. Kostenko, which is shown in Fig 1. Variants of this circuit used in particular cases are briefly discussed. For f.h.p. induction motors of 100-500 W, or for an induction motor supplied through a line of high resistance and inductance and in some other

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Calculation of the Mechanical Characteristics of Miniature Induction Motors

circumstances, it is advisable to use the accurate L-network equivalent circuit in calculating the torque, which gives an expression somewhat different from formula (1). It is pointed out that the use of a simple correction factor for Eq (1), as advanced by Stolov, is not acceptable. The use of quadripole theory as recommended by V.V. Meshcheryakov is also deprecated. An expression is then derived for the torque using the accurate L-network equivalent circuit, and various calculations of the mechanical characteristics of the motor are compared with experimental values. Expressions (7) and (8) are derived for the secondary current and torque respectively, but as the torque expression is cumbersome the more convenient expressions (9) and (10) are derived after some simplification. The maximum torque is determined by inserting the value of the critical slip from Eq (11) into Eq (10). Formulae (1) and (10) for the torque were compared by calculating the mechanical characteristics (torque as a function of slip) for a three-phase fractional horsepower induction motor. The main characteristics of the machine are given and it is

Calculation of the Mechanical Characteristics of Miniature Induction Motors

the same as that described by Stolov. The results are plotted graphically in Fig 1, where curve 1 corresponds to Eq (1), and curve 2 to Eq (10) (which coincides with the curve calculated by Stolov). Curve 3 gives the experimental results and curve 4 corresponds to the usual formulae (1) but embodies the inaccurate correction factors of Stolov. It will be seen that formulae (1) and (10) and Stolov's method give sufficiently accurate results but that curve 4 is very inaccurate.
There are 2 figures and 4 Soviet references.

ASSOCIATION: Kafedra elektricheskikh mashin, Leningradskiy politekhnicheskiy institut (Chair of Electrical Machines, Leningrad Polytechnical Institute)

Card 3/3

SUBMITTED: May 30, 1959

S/196/61/000/009/045/052
E194/E155

AUTHOR: Kaazik, P.Yu.

TITLE: The influence of motor parameters on the linearity of control of controlled squirrel-cage induction motors

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.9, 1961, 10, abstract 9K 83. (Nauchno-tekhn. inform. byul. Leningr. politekhn. in-ta, no.8, 1960, 15-24)

TEXT: The article considers the influence of the parameters of two-phase squirrel-cage motors on the linearity of control, i.e. on the proportionality between the speed and the coefficient of the signal applied to the control winding when the torque is constant. Theoretical analysis and practical tests on a motor with a rating of 1 W and speed n_c = 8000 r.p.m. showed that for motors of up to 5 W the linearity of control is mainly influenced by the ohmic resistance of rotor and stator and also by the inductive leakage reactance of the rotor, whilst the inductive leakage reactance of the stator has negligible effect.

The influence of motor parameters ... S/196/61/000/009/045/052
E194/E155

It is recommended to reduce the rotor leakage reactance and to increase its ohmic resistance. If the relative ohmic resistance of the rotor is increased above 1.6 there is no appreciable improvement in the linearity of control.
1 literature reference.

[Abstractor's note: Complete translation.]

Card 2/2

KAAZIK, P.Yu.

Additional losses in loaded asynchronous machines. Trudy LPI no.209: 281-299 '60. (MIRA 14:2)
(Electric machinery, Synchronous)

KAZIK, P.Yu.

Magnetic field in the air gap of synchronous machines with fractional windings. Trudy LPI no. 209:300-312 '60.
(MIRA 14:2)
(Electric motors, Induction—Windings)

LAZIK, P.Yu.

Additional dissipation through the air gap of asynchronous machines with fractional windings. Trudy LIT no. 209:313-337 '60.
(MIRA 14:2)
(Electric motors, Induction--Windings)

KAAZIK, P.Yu. [Kaasik, P.]

Precise circular diagram of a low-powered asynchronous machine. Izv. vys. ucheb. zav.; elektromekh. 4 no. 1:38-50 '61. (MIRA 14:4)
(Electric motors, Induction)

KAAZIK, Paul' Yulimsovich, kand. tekhn. nauk, dotsent

Semigraphical method for determining the characteristics of an asynchronous machine with amplitude control. Izv. vys. ucheb. zav.; elektromekh. 5 no.7:730-738 '62. (MIRA 15:10)

1. Kafedra elektricheskikh mashin Leningradskogo politekhnicheskogo instituta.

(Electric motors, Induction)

KAAZIK, Paul' Yuliusovich, kand.tekhn.nauk, dotsent

Semigraphical method for determining the characteristics of an asynchronous machine with presence of phase control. Izv. vys. uch. zav.; elektromekh. 5 no.8:866-875 '62. (MIRA 15:8)

1. Kafedra elektricheskikh mashin Leningradskogo politekhnicheskogo instituta.

(Electric motors, Induction)

KAAZIK, Paul' Yuliusovich, kand.tekhn.nauk,dotsent

Relative parameters of regulated asynchronous motors with squirrel-cage rotors. Izv.vys.ucheb.zav.; elektromekh. 7 no. 3:339-347 '64. (MIRA 17:5)

1. Kafedra elektricheskikh mashin Leningradskogo politekhnicheskogo instituta.

KAAZIK, Paul' Yuliusovich, kand.tekhn.nauk, dotsent; NESGOVOROVA, Yelena Dmitriyevna, kand.tekhn.nauk, dotsent

Analysis of th· stability and linearity of the mechanical characteristic of controlled asynchronous m tors. Izv.vys.ucheb. zav.; elektromekh. 7 no.11:1350-1359 '64.

(MIRA 18:3)

1. Kafedra elektricheskikh mashin Leningradskogo politekhnicheskogo instituta.

TOKOV, M.I.; KAAZIK, P.Yu.

Semigraphical method for calculating the statistical characteristics of an asynchronous motor with speed regulation using an asynchronous frequency converter. Trudy LPI no.241:41-52 '64. (MIRA 18:4)

ABSTRACT: Conventional T-type equivalent circuits of capacitor induction servomotors have been used in complicated analytical calculations of these motors. L-type equivalent circuits have been used in the Soviet Union as a bla-

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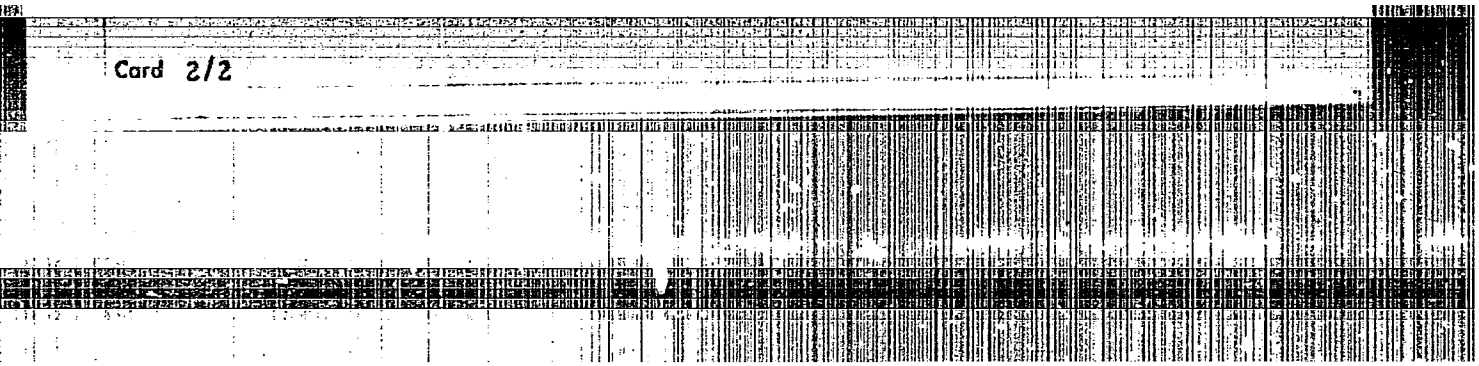
APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619720011-4"

L 36494-65

ACCESSION NR: AT5004639

analysis of the unbalanced operation of a capacitor motor by the symmetrical-component method suitable for graphic-analytical calculations is presented.

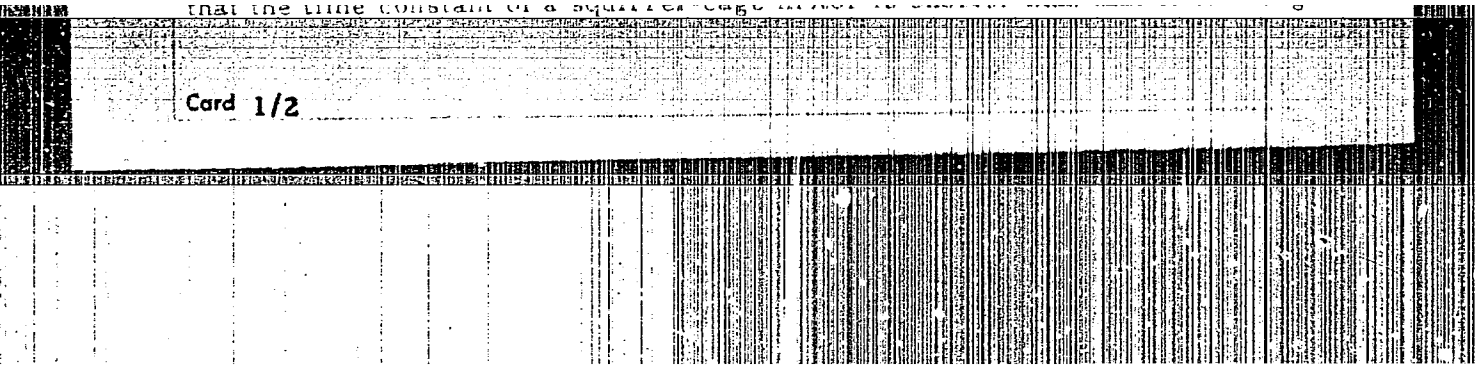


APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619720011-4"

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy, no. 241, 1964. Elektromashinostroyeniye (Electrical machinery manufacture), 86-89

TOPIC TAGS: [illegible] motor, controllable induction motor, capacitor induction [illegible]

ABSTRACT: Heretofore drag-cup servomotors have been used in automatic [illegible] electromechanical time constant they have been believed to have [illegible] acceleration time than squirrel-cage motors. Soviet investigators, however, find



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L 36495-65

ACCESSION NR: AT5004640

cup motor for a motor capacity of 5 w or more. Under 5 w, the relation is questionable. To clarify the matter, five smaller-than-5 w motors were calculated, both types of the same power and with the same heating of stator windings. Estimated data (table 2) shows that, under the above conditions, the size of the drag-cup motor considerably exceeds, and its moment of inertia and time constant are both lower than those

KAAZIK, Paul' Yuliusovich, kand. tekhn. nauk, dotsent

Effect of the nonlinearity of the mechanical characteristics of regulated induction motors on their operating characteristics. Izv. vys. ucheb. zav.; elektromekh. 8 no.4:412-420 '65.

(MIRA 18:5)

1. Kafedra elektrichestva mashin Leningradskogo politekhnicheskogo instituta.

NESGOVOROVA, Yelena Dmitriyevna, kand.tekhn.nauk, dotsent; KAAZIK, Paul' Yulisovich, kand.tekhn.nauk, dotsent; SHARAKHIN, Vladimir Nikolayevich, assistent; ZABOROVSKIY, Sergey Aleksandrovich, assistent; BORISOV, Al'bert Petrovich, assistent; TOKOV, Mikhail Ivanovich, assistent

Frequency system for regulating the angular velocity of an asynchronous motor with fan load and auxiliary power supply. Izv.vys.ucheb.zav.; elektromekh. 8 no.9:966-975 '65. (MIRA 18:10)

1. Kafedra elektricheskikh mashin Leningradskogo politekhnicheskogo instituta (for Nesgovorova, Kaazik, Borisov, Tokov). 2. Kafedra elektrooborudovaniya promyshlennykh predpriyatiy Leningradskogo politekhnicheskogo instituta (for Sharakhin, Zaborovskiy).

KAZBIK, Pavel [illegible]ovich, kand.tekhn.nauk, dotsent; NIKHOV, A.A., starshiy inzh.

Graphical method for determining the mechanical and regulatory characteristics of two-phase controlled induction motors. Izv.vys. ucheb.zav.; elektromekh. 8 no.9:985-993 '65.

(MIRA 18:10)

1. Kafedra elektricheskikh mashin Leningradskogo politekhnicheskogo instituta.

KAASIK, U.; SALUM, H.; SINISOO, M.; SILLAMAA, H., kand. tekhn. nauk, retsenzent; ABO, L., red.; LAUL, U., tekhn. red.

[Electronic calculating machines] Elektron-arvutusmasinad. Tallinn, Eesti Riiklik Kirjastus, 1960. 194 p. (MIRA 15:2)
(Electronic calculating machines)

KAAZIK, Yu. Ya.

USSR/Mathematics - Functional equations

Card 1/1 Pub. 22 - 1/47

Authors : Kaazik, Yu. Ya. and Gamme, E. E.

Title : About a method of approximate solution of functional equations

Periodical : Dok. AN SSSR 101/6, 981 - 984, Apr. 21, 1955

Abstract : A method is presented for the solution of the so-called functional equations of the type: P(X) = 0, where the P is (in a certain vicinity of the exact solution of X) an analytical operator for transformation from the Banach space X into a linear normed space Y. Four references: 2 USA and 2 USSR (1870-1950). Tables.

Institution : The State University, Tartu, Estonia

Presented by: Academician A. N. Kolmogorov, December 14, 1954

SUBJECT USSR/MATHEMATICS/Functional analysis CARD 1/2 PG - 755
AUTHOR KAASIK Ju.Ja.
TITLE On the approximative solution of non-linear operator equations with iteration methods.
PERIODICAL Uspechi mat.Nauk. 12, 1, 195-199 (1957)
reviewed 5/1957

Let be given the non-linear operator equation

(1) $$P(x) = 0,$$

where $y = P(x)$ is an analytic operator of the Banach space X into the normalized space Y. Let x_0 be the initial approximation of the rigorous solution x^*, the further approximations let be given by the process:

(2) $$\Delta x_{n+1} = x_{n+1} - x_n = F_n \Gamma_n P(x_n) \qquad (n=0,1,\ldots).$$

Here $\Gamma_n = [P'(x_n)]^{-1}$; F_n is a certain linear operator which is formed by the operators E, $\Gamma_n P''(x_n), \ldots, \Gamma_n P^{(k)}(x_n)$ and the operator $\Gamma_n P(x_n)$ (k is a fixed integer). For the proof of the rigorous convergence $x_n \to x^*$ and in order to obtain the estimation for $\|x^* - x_n\|$ the author uses an idea of Kantorovič (Uspechi mat.Nauk 3, 6, 89-185 (1948)). He states that if there

KAAZIK, Yu.Ya.

SUBJECT USSR/MATHEMATICS/Functional analysis CARD 1/3 PG - 852
AUTHOR KAASIK Ju.Ja.
TITLE On a class of iteration processes for the approximative solution of operator equations.
PERIODICAL Doklady Akad.Nauk 112, 579-582 (1957)
reviewed 6/1957

Let P be a two times differentiable operator of the Banach space X into the normalized space X. For the approximative solution of the equation

(1) $$P(x) = 0$$

there is used the iteration process

(2) $$\Delta x_{n+1} = x_{n+1} - x_n = -(E+\alpha R_n)^{-1}\left[E+(\alpha+1)R_n\right]\Gamma_n P(x_n).$$

Here E is the identical operator, $\Gamma_n = \left[P'(x_n)\right]^{-1}$ and $R_n = \frac{1}{2}\Gamma_n P''(x_n)\Gamma_n P(x_n)$.

For different α (real number) one obtains several well-known iteration processes.
Theorem: 1) let exist the inverse operator $\Gamma_0 = \left[P'(x_0)\right]^{-1}$, where

Doklady Akad.Nauk 112, 579-582 (1957) CARD 2/3 PG - 852

$\|\Gamma_0 P(x_0)\| \leq \eta_0$, 2) let the operator P be analytic in the sphere

(3) $$\|x - x_0\| \leq \frac{\delta_0 \eta_0}{1 - s_0^2 h_0^2 (1-h_0)},$$

where

$$\left\| \frac{1}{j!}\Gamma_0 P^{(j)}(x_0)\right\| \leq A_0 H_0^{j-1} \qquad (j=2,3,\ldots),$$

3) The magnitudes η_0, A_0, H_0 satisfy the inequations

$$|\alpha| A_0 H_0 \eta_0 < 1, \quad |\alpha+1| A_0 H_0 \eta_0 < 1, \quad h_0 = H_0 \delta_0 \eta_0 < 1,$$

where

$$\delta_0 = \frac{1-(|\alpha|-1)A_0 H_0 \eta_0}{1-|\alpha| A_0 H_0 \eta_0}, \qquad q_0 = 1 - A_0 \frac{h_0(2-h_0)}{(1-h_0)^2} > 0$$

$$p_0^2 = \frac{s_0^2 h_0^2}{q_0 (1-h_0)^2} \leq 1,$$

INSTITUTION: University Tartu.

CARPINISAN, Olimpia, ing.; TAFLAN, Mircea, chim.; DAN, V., ing.; BESLIU, L., ing.; KABA, E., ing.; VERTLEN, P., ing.; DAVID, V., ing.

Experiments for utilizing the hydrocyanic acid from the coke gas. Metalurgia Rum 15 no.5:348-352 My '63.

KABA, Emeric, ing.; LIVEANU, Nicolaie, ing.; GRINDEANU, Alexandru, ing.
GHERGHEL, Cornel, ing.; MARINUT, Miron;

Improving the determination of coal mixture for coking.
Metalurgia Rum 15 no.5:345-347 My '63.

KABA, Iuliu, ing.

The stage of the introduction of new technics and mechanization of the underground production process in Jiu Valley mining exploitation. Rev min 13 no.8:351-354 Ag '62.

37994
S/137/62/000/005/142/150
A052/A101

1.2310

AUTHORS: Pechaň, J., Kába, J.

TITLE: New Czechoslovakian automatic friction welding machine

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 5,1962, 68, abstract 5E378 ("Techn. zprávy. Výzkum. ústav. naft. motoru", 8, no. 1, 1960 (1961), 26 - 28, Czech; Russian and German summaries)

TEXT: The basic principles of friction welding are outlined. The hydraulic control system of ATS-20 friction welding machine and its operation is described. The machine is intended for welding rods 20 - 50 mm in diameter, 200 mm long from the spindle side and of any length from the loose head side. The compressive force is $\leq$30 tons. The rotating speed is $\leq$1,600 rpm. The temperature on contact sections is 800 - 1,260°C. The welding cycle is automated.

M. Tapel'zon

[Abstracter's note: Complete translation]

Card 1/1

KABACHEK, I.

We observed "Builder's Day" in the proper manner. Sel'.stroi. 11 no.9:16 S '56. (MLRA 9:11)

1. Brigadir stroitel'noy birgady Ordzhonikidzevskoy Mashinno-traktornoy stantsii Sunzhenskogo rayona Groznenskoy oblasti. (Building)

S/056/63/044/001/008/067
B108/B180

AUTHORS: Korotkov, K. A., Kabachenko, A. P., Lysikov, Yu. A., Dobrov, Yu. V.

TITLE: Internal bremsstrahlung which accompanies the β-decay of Ca^{45}

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44, no. 1, 1963, 45 - 47

TEXT: The bremsstrahlung was measured at 40 - 215 kev on a single-channel scintillation spectrometer with an NaI(Tl) crystal in an aluminum container. The Ca^{45} beta sources were prepared from a solution of calcium chloride and powdered $CaCO_3$ applied to and covered by a methacrylate film of 0.1 mg/cm^2. The sources were kept at a pressure of 1 mm Hg. The spectrum was compared with that calculated according to the theory of J. K. Knipp and G. E. Uhlenbeck (Physica, 3, 425, 1936) and F. Bloch (Phys. Rev., 50, 272, 1936). At low energies (60 - 130 kev) both curves agree very well, but at higher energies the discrepancy is considerable (35 % at 215 kev) and cannot be eliminated by taking the Coulomb effect into consideration. There is 1 figure.

Card 1/2

Internal bremsstrahlung which ... S/056/63/044/001/008/067
B108/B180

ASSOCIATION: Voronezhskiy gosudarstvennyy universitet (Voronezh State University)

SUBMITTED: July 1, 1962

Card 2/2

ACC NR: AT6036519 SOURCE CODE: UR/0000/66/000/000/0097/0098

AUTHOR: Vasil'yev, I. S.; Ryzhov, N. I.; Derbeneva, N. N.; Portman, A. I.; Dorofeyeva, N. Zh.; Khlaponina, V. F.; Kabachenko, A. S.

ORG: none

TITLE: Effect of proton and gamma irradiation on the mitotic activity of transplanted human cell cultures [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24 to 27 May 1966.]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 97-98

TOPIC TAGS: proton radiation biologic effect, ionizing radiation biologic effect, relative biologic officiency, human cell culture, radiation tissue effect, mitosis

ABSTRACT: Transplanted cell cultures are a valuable object of radiobiological study because of their high radiosensitivity. They are sometimes the only biological objects available for study of low-energy radiation effects. This series of experiments was conducted to determine the comparative effect of proton and gamma irradiation on the mitotic activity of human amniotic cells. Two-day-old cultures of amniotic cells, in single layer or in suspension, were irradiated with 630-Mev protons from an OIYAI

Card 1/3

ACC NR: AT6036519

synchrocyclotron or with Co^{60} gamma rays. The dose power of protons was 35 rad/sec and of gamma rays, 3 rad/sec. The activation and luminescent methods of proton dosimetry were used. Ionization chambers were used to monitor the beam. Mitotic activity was determined immediately after gamma irradiation, and then at intervals of 12, 24, 36, and 48 hr: Similar determinations were made 10, 20, 40, and 60 hr after proton irradiation.

A definite change in mitotic activity due to gamma and proton irradiation was observed in these experiments. Immediately after gamma irradiation with all doses the mitotic index decreased, reaching 1.6—1.3 with a 1000—1500 rad dose, as compared with 5.5 in the control. With doses of gamma rays from 750 to 1500 rad the mitotic index fell to 0.5—0.6 within 12 hr. A different pattern was observed following proton irradiation: within 10 hr of irradiation with 40—450 rad the mitotic index increased approximately 50% as compared with the control. Only with large proton doses did mitotic activity decrease. Twenty hr after proton irradiation with 40—1000 rad, the mitotic index reached a low of 1.4—0.07 (1.9 in the control).

Intensive recovery of the mitotic index in the postradiation period was

Card 2/3

ACC NR: AT6036519

observed with both types of radiation: the index had reached initial levels within 36—40 hr for almost all doses. Two days after gamma irradiation the mitotic index was 2—3 times higher than the initial level, whereas after proton irradiation the mitotic index recovered in three days.

Comparison of changes in mitotic activity after both proton and gamma irradiation showed the clear dose dependence of depression of mitotic activity. The same pattern of changes was observed after both types of irradiation, and quantitative relationships in observed processes were identical in both cases. [W. A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

Card 3/3

MESHALKIN, Ye.N.; SERGIYEVSKIY, V.S.; KABACHEVSKAYA, E.E.

Late results of aortopulmonary anastomosis in dextraposition of the bulbus cordis (tetralogy of Fallot). Eksper. khir. 4 no.6: 17-26 N-D '59. (MIRA 14:6)

1. Iz Instituta eksperimental'noy biologii i meditsiny (dir. - prof. Ye.N.Meshalkin) Sibirskogo otdeleniya Akademii nauk SSSR i khirurgicheskogo otdeleniya 52-y gorodskoy klinicheskoy bol'nitsy Moskvy (glavnyy vrach P.S.Petrushenko).
(TETRALOGY OF FALLOT)

KABACHINSKIY, N. N.

"On the problem of determining the pressure of water on the surface of a moving ship by the method of the effect function," Trudy Gor'k. industr. in-ta im. Zhdanova, Vol. VII, Issue 2, 1948, p. 5-24 - Bibliog: 6 items

SO: U-3850, 16 June 53, (Letopis 'Zhurnal 'nykh Statey, No. 5, 1949).

[N.]

KABACHINSKIY, N., doktor tekhnicheskikh nauk, professor.

Increasing the pulling power of screw tugboats. Mor.i rech.flot 13 no.5:22-24 S '53. (MLRA 6:10)
(Tugboats)

123-1-1182

Translation from: Referativnyy Zhurnal, Mashinostroyeniye, 1957, Nr 1, p. 174 (USSR)

AUTHORS: Kabachinskiy, N. N., Solov'yev, S. S.

TITLE: Determination of Stresses in Propeller Shaft and in Screw Propeller When Its Blades Strike a Hard Object (K zadache opredeleniya napryazheniy v grebnom valu i v grebnom vinte pri udare yego lopasti o tverdyy predmet)

PERIODICAL: Trudy Gor'kovsk. politekhn. in-ta, 1956, 11, Nr 4, pp.12-24

ABSTRACT: In discussing this problem the authors take certain design of propeller shafting with a screw propeller protected from dynamic overstress by the introduction of additional yielding elements in the junction of detachable blades with the nave, in the bearing bushing of the propeller shaft, and in the junction of the latter with the idler shaft. They analyze the motion of the given mechanical system while in vibration after an impact. The Lagrange-type equations of motion are formed and a method for calculation of inertia coefficients are indicated.

Card 1/2

KABACHINSKIY, N.N., doktor tekhn.nauk

Calculating stresses in the shaft and in the propeller as a result of the blade striking a hard object. Trudy NTO sud. prom. 7 no.2:305-332 '57. (MIRA 12:1)
(Shafting) (Propellers)

KABACHINSKIY, N.N., doktor tekhnicheskikh nauk.

Improving the propulsion capacity of the unit vessel-pusher. Rech. transp. 16 no.1:25-26 Ja '57. (MLRA 10:3)
(Towing) (Ship propulsion)

KABACHINSKIY, N.N., doktor tekhn.nauk

Approximate analytical determination of the interaction between propellers and pusher-tug hulls. Trudy GPI 14 no.1:3-13 '58. (MIRA 13:2)

(Ship propulsion)

KABACHINSKIY, N.N., doktor tekhn.nauk

Determining stresses in propeller shafts under the effect of the propeller impact against a hard body. Trudy GPI 14 no.1:14-16 '58. (MIRA 13:2)

(Shafting) (Strains and stresses)

KABACHINSKIY, N.N., doktor tekhn.nauk, prof.

Calculating the transient process in the movement of a self-propelled model. Trudy GPI 15 no.1:8-11 '61 [i.e. '59]. (MIRA 15:11)

(Transients (Dynamics)) (Ship models--Testing)

KABACHINSKIY, N.N., doktor tekhn.nauk, prof.

Form of equations for the dynamics of complex systems. Trudy GPI 15 no.1:5-8 '61 [i.e. '59]. (MIRA 15:11)
(Thermodynamics)

LAVRENTOVICH, Ya.I.; LEVON, A.I.; KABACHKI, A.M.

Effect of radiation with various magnitude of linear energy transfer on polymeric films containing dyes. Ukr.khim.zhur. 31 no.5:440-444 '65. (MIRA 18:12)

1. Institut fizicheskoy khimii imeni Pisarzhevskogo AN UkrSSR. Submitted Jan. 16, 1964.

MITEV, D.; KABACHKIEV, G.

Foreign bodies in the lower respiratory tract. Khirurgia (Sofiia) 16 no.11:1013-1022 '63.

1. Vissh meditsinski institut, katedra po ushni, nosni i gurleni bolesti, Sofiia. Rukovoditel na katedrata: prof. G.Iankov.

L 11780-65 EWT(m)/EWP(t)/EWP(b) ASD(m)-3 JD

S/0286/64/000/019/0025/0025

TOPIC TAGS: metal, nonferrous metal, metal [illegible] 15

[illegible] device for [illegible]

to the static member.

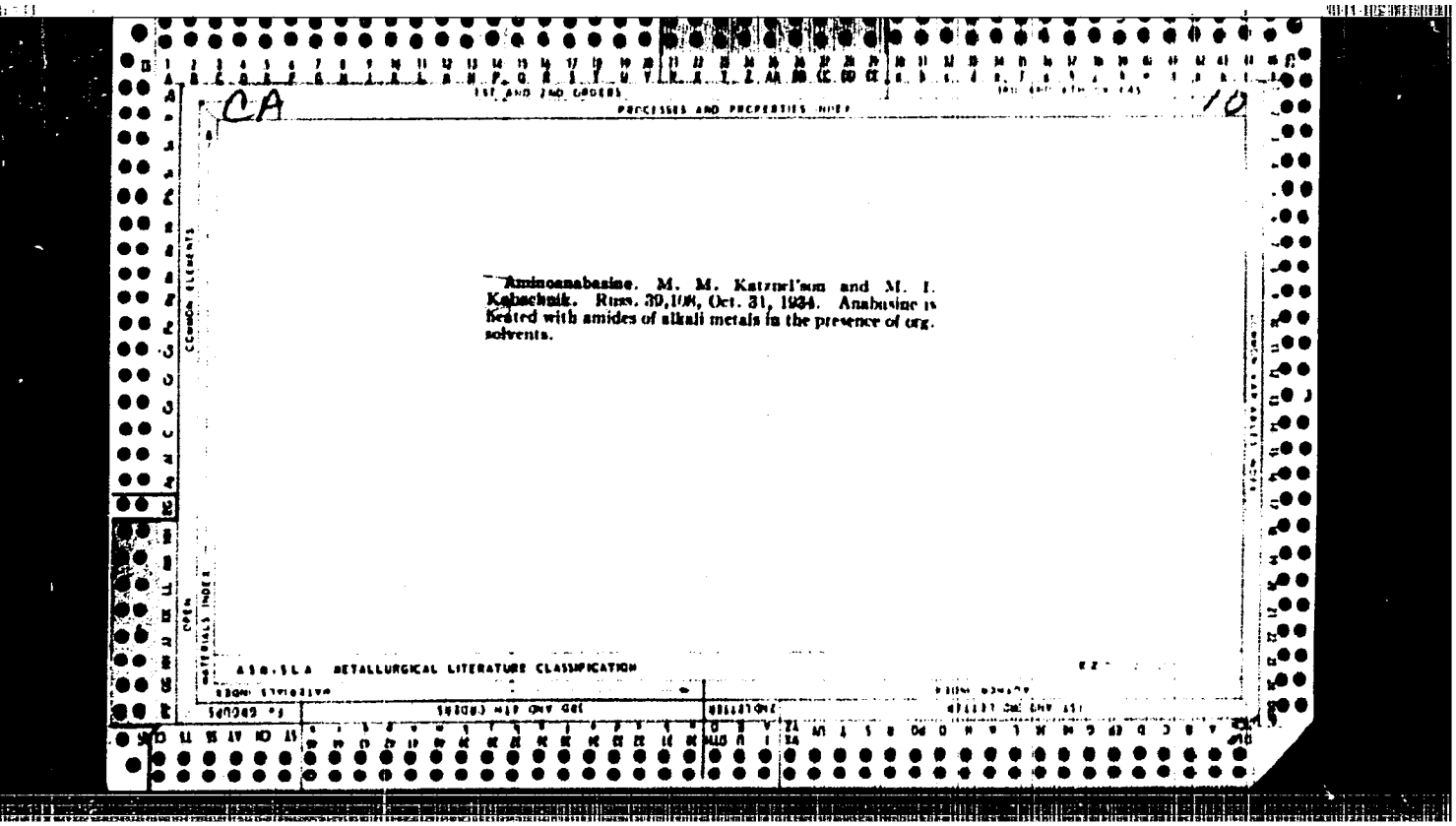
ASSOCIATION: Gosudarstvenny*y nauchno-issledovatel'skiy institut tsvetnykh metallov (State Scientific Research Institute of Nonferrous Metals)

Card 1/2

BRYUKVIN, V.A.; PETYGIN, V.I.; KABACHKOV, N.I.

Methods of studying the macrokinetics of oxidation of sulfide materials with a continuous recording of the chemical reaction rate. Elektrokhimiia 1 no.7:806-811 Jl '65. (MIRA 18:10)

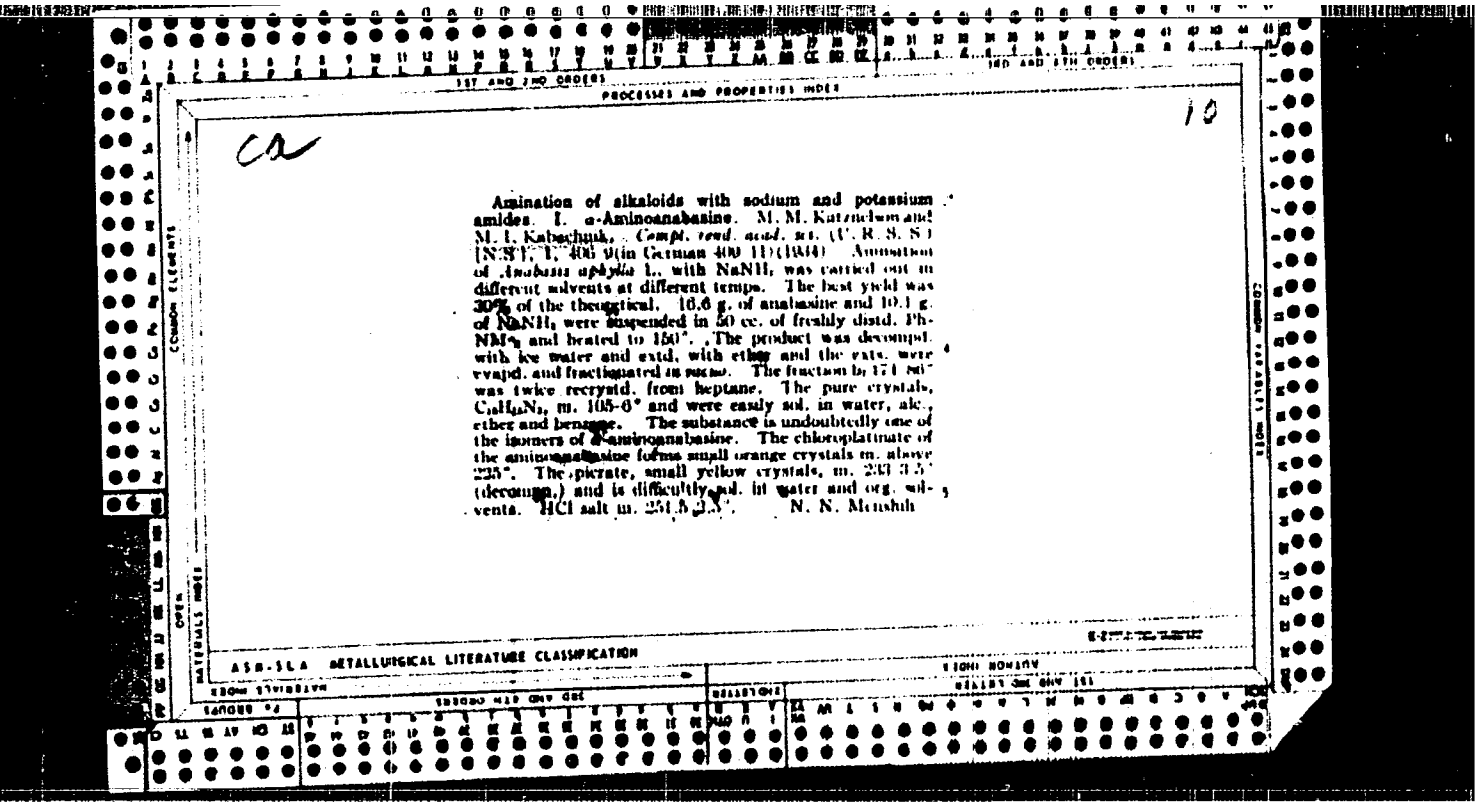
1. Gosudarstvennyy institut tsvetnykh metallov.



CA

10

Aminoanabasine. M. M. Katzenel'son and M. I. Kabachnik. Russ. 30,108, Oct. 31, 1934. Anabasine is heated with amides of alkali metals in the presence of org. solvents.

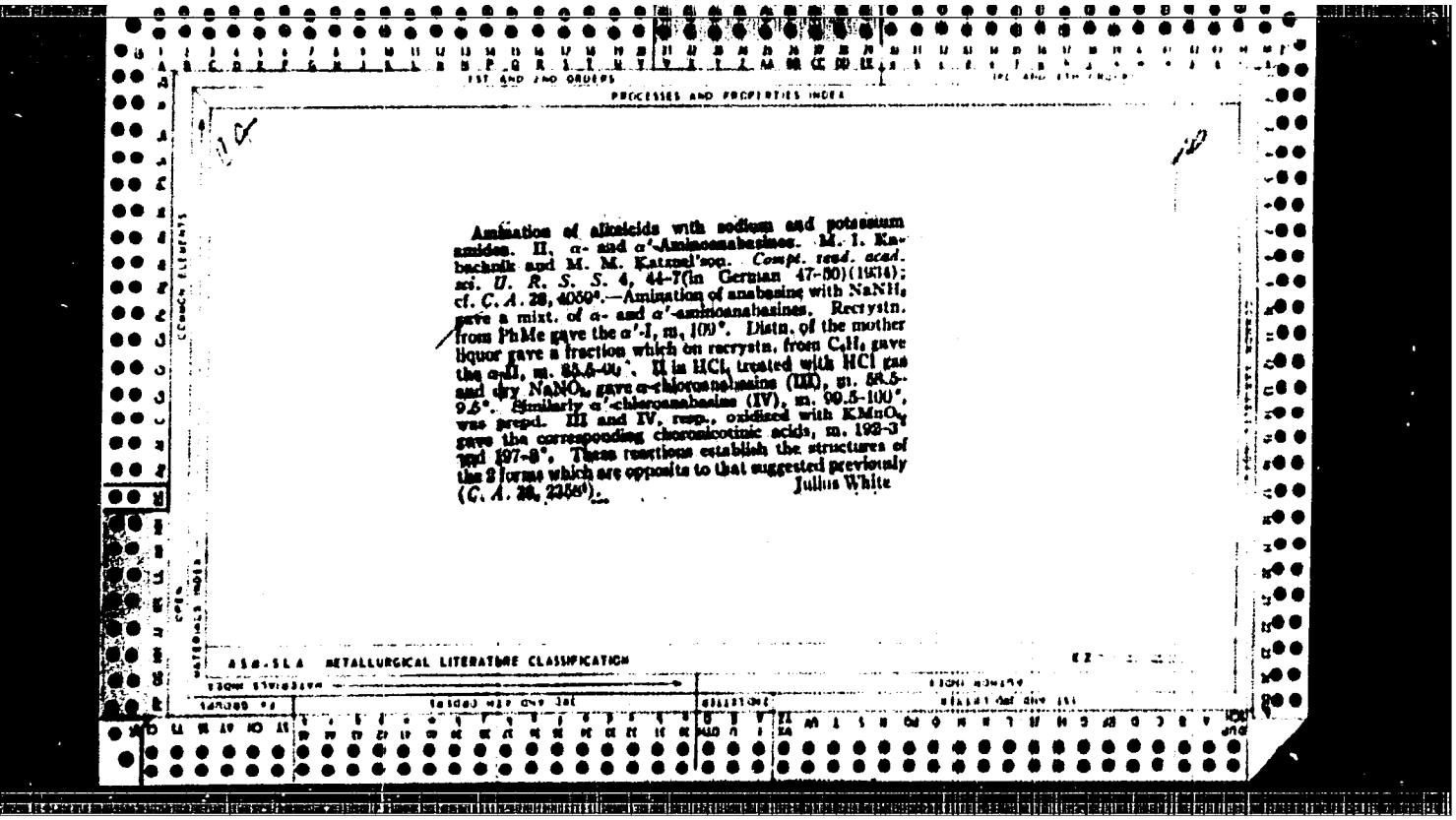


PROCESSES AND PROPERTIES INDEX

10

Amination of alkaloids with sodium and potassium amides. I. α-Aminoanabasine. M. M. Kaizmchom and M. I. Kabachnik. *Compt. rend. acad. sci. U.R.S.S.* [N.S.] 1, 406 9(in German 409 11)(1934). Amination of *Anabasis aphylla* L. with $NaNH_2$ was carried out in different solvents at different temps. The best yield was 30% of the theoretical. 16.6 g. of anabasine and 10.1 g. of $NaNH_2$ were suspended in 50 cc. of freshly distd. $PhNMe_2$ and heated to 150°. The product was decompd. with ice water and extd. with ether and the exts. were evapd. and fractionated in vacuo. The fraction b. 174 80° was twice recrystd. from heptane. The pure crystals, $C_{10}H_{14}N_2$, m. 105-6° and were easily sol. in water, alc., ether and benzene. The substance is undoubtedly one of the isomers of α-aminoanabasine. The chloroplatinate of the aminoanabasine forms small orange crystals m. above 225°. The picrate, small yellow crystals, m. 233 3.5° (decomp.) and is difficultly sol. in water and org. solvents. HCl salt m. 251.5 2.5°. N. N. Melnikh

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

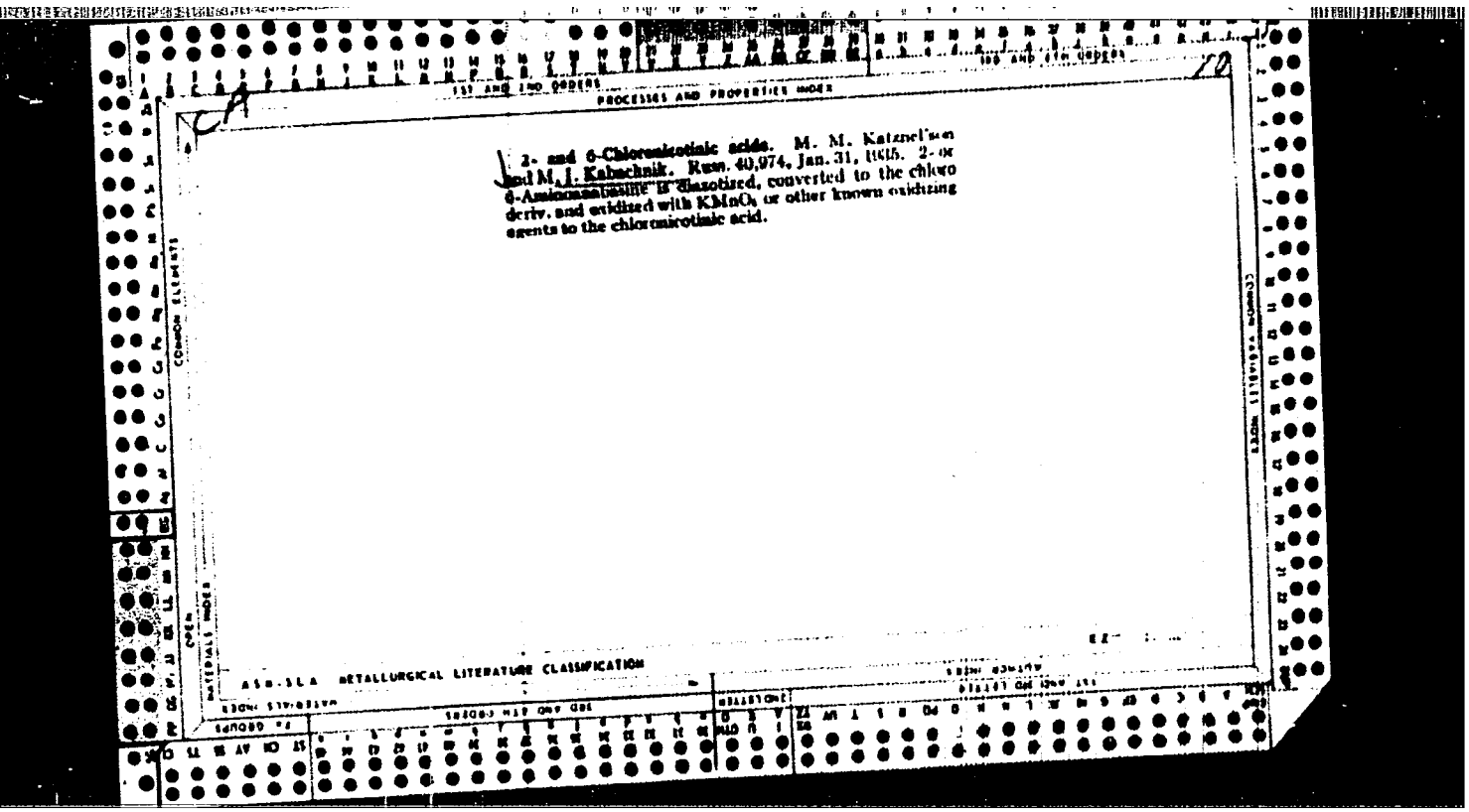


PROCESSES AND PROPERTIES INDEX

Amination of alkinicids with sodium and potassium amides. II. α- and α'-Aminoanabasines. M. I. Kabachnik and M. M. Katsnel'son. *Compt. rend. acad. sci. U. R. S. S.* 4, 44-7(in German 47-50)(1934); cf. *C. A.* 28, 4059⁸.—Amination of anabasine with $NaNH_2$ gave a mixt. of α- and α'-aminoanabasines. Recrystn. from PhMe gave the α'-I, m. 100°. Distn. of the mother liquor gave a fraction which on recrystn. from C_6H_6 gave the α-II, m. 85.5-90°. II in HCl treated with HCl gas and dry $NaNO_2$ gave α-chloroanabasine (III), m. 88.5-9.5°. Similarly α'-chloroanabasine (IV), m. 99.5-100°, was prepd. III and IV, resp., oxidized with $KMnO_4$ gave the corresponding chloronicotinic acids, m. 192-3° and 197-8°. These reactions establish the structures of the 2 forms which are opposite to that suggested previously (*C. A.* 28, 2358⁸).

Julius White

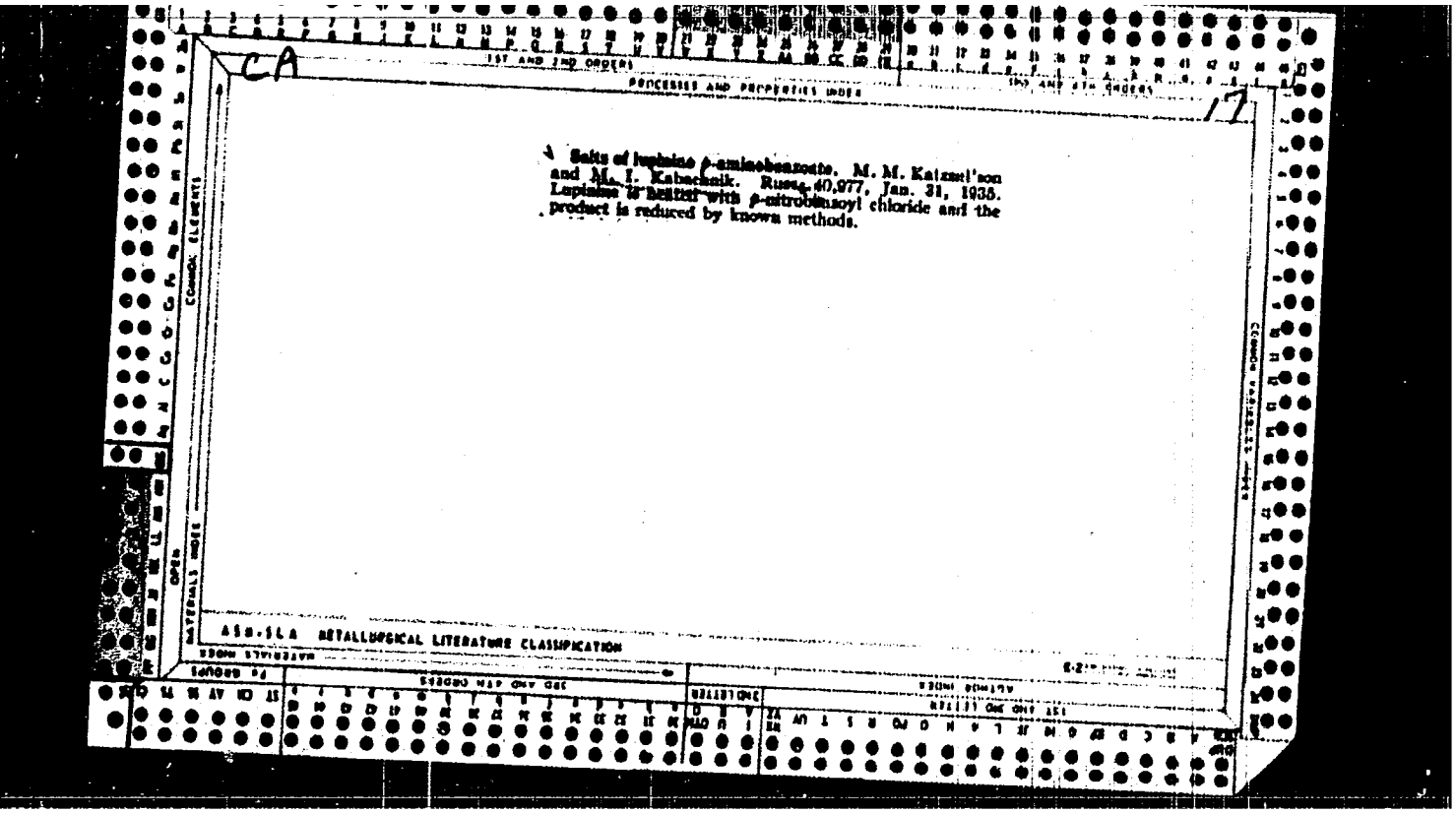
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

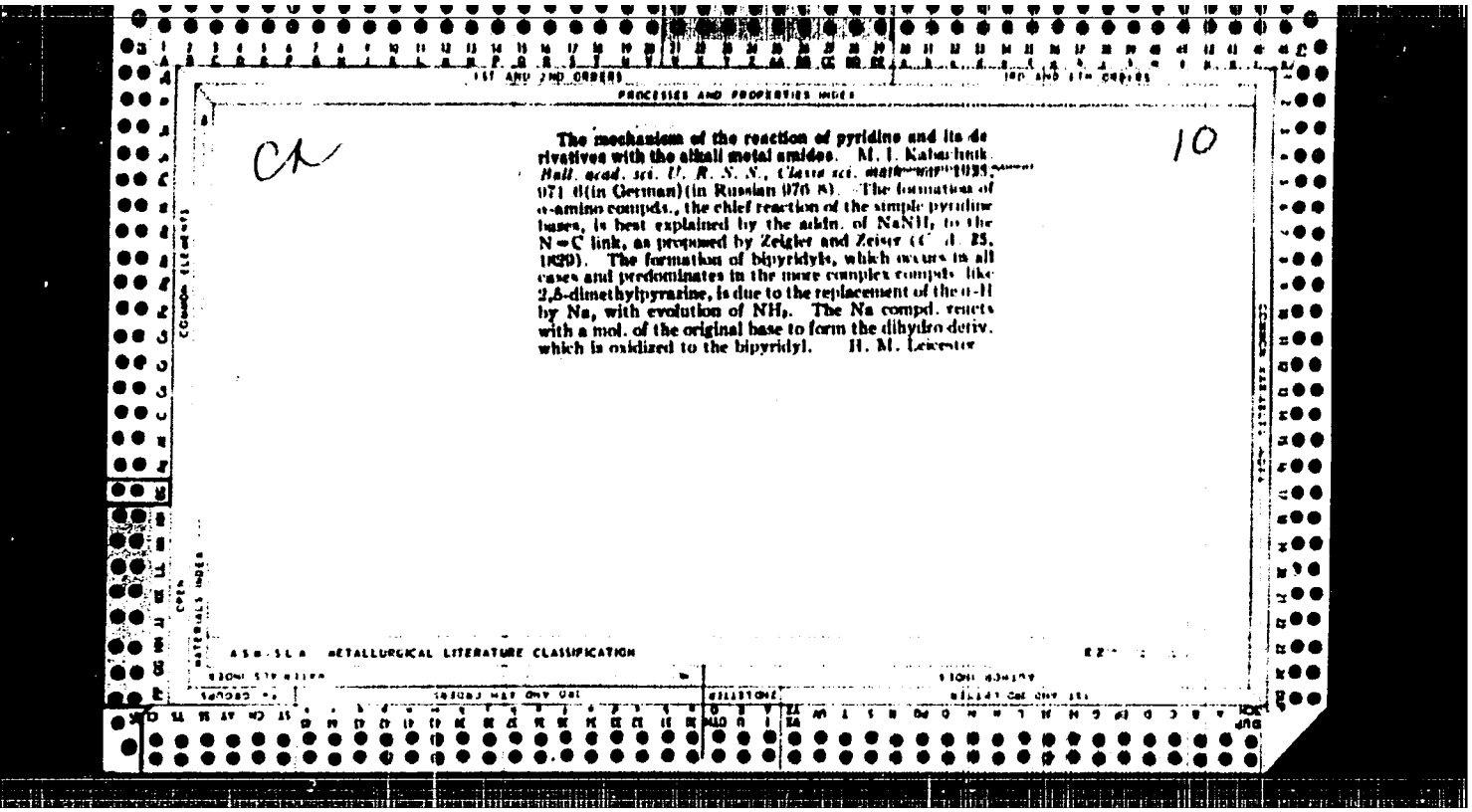


PROCESSES AND PROPERTIES INDEX

2- and 6-Chloronicotinic acids. M. M. Katznel'son and M. J. Kabachnik. Russ. 40,974, Jan. 31, 1935. 2- or 6-Aminonicotinic is diazotized, converted to the chloro deriv. and oxidized with $KMnO_4$ or other known oxidizing agents to the chloronicotinic acid.

A58-51A METALLURGICAL LITERATURE CLASSIFICATION





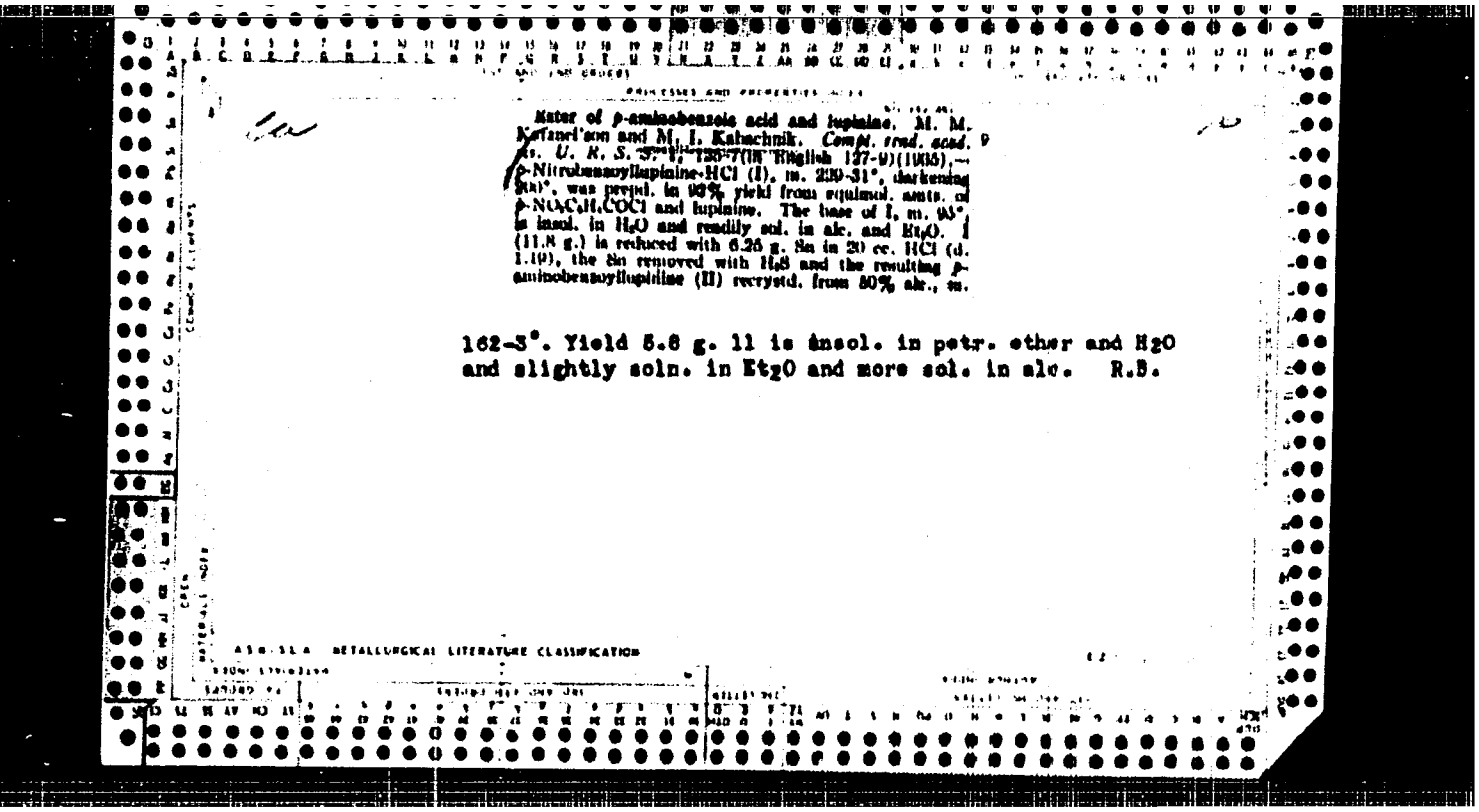
PROCESSES AND PROPERTIES INDEX

CA

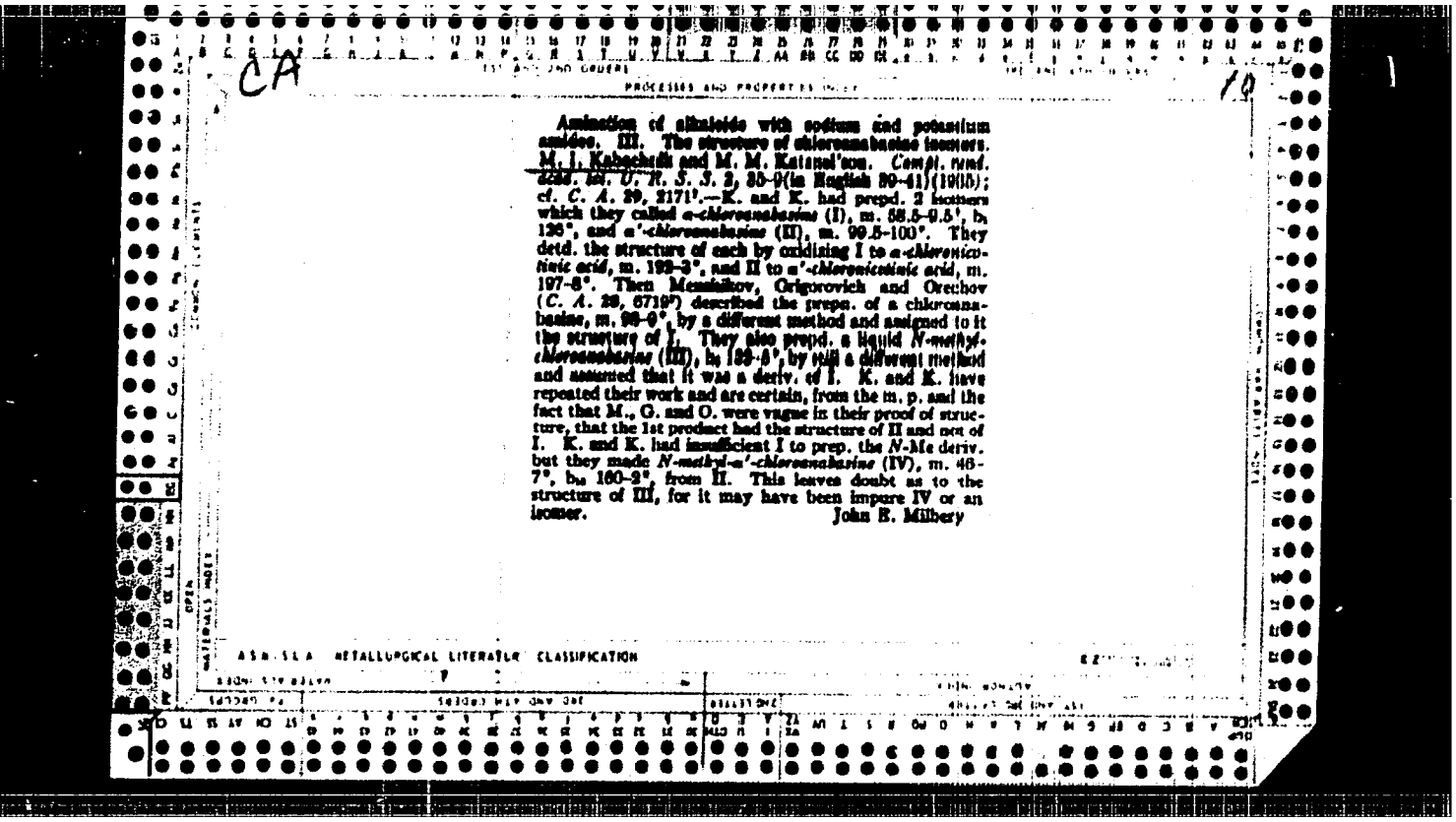
10

The mechanism of the reaction of pyridine and its derivatives with the alkali metal amides. M. I. Kabachnik. *Bull. acad. sci. U. R. S. S., Classe sci. math.* 1935, 971-8(in German)(in Russian 978-8). The formation of α-amino compds., the chief reaction of the simple pyridine bases, is best explained by the addn. of $NaNH_2$ to the N=C link, as proposed by Zeigler and Zeiser (*C. A.* 25, 1839). The formation of bipyridyls, which occurs in all cases and predominates in the more complex compds. like 2,5-dimethylpyrazine, is due to the replacement of the α-H by Na, with evolution of NH_3. The Na compd. reacts with a mol. of the original base to form the dihydro deriv. which is oxidized to the bipyridyl. H. M. Leicester

A S M - S L A METALLURGICAL LITERATURE CLASSIFICATION



Ester of *p*-aminobenzoic acid and lupinine. M. M. Kafanel'son and M. I. Kabachnik. *Compt. rend. acad. sci. U. R. S. S.* [illegible] (in English 127-9)(1935).—*p*-Nitrobenzoyllupinine·HCl (I), m. 230-31°, darkening 200°, was prepd. in 93% yield from equimol. amts. of *p*-NO$_2$C$_6$H$_4$COCl and lupinine. The base of I, m. 93°, is insol. in H$_2$O and readily sol. in alc. and Et$_2$O. I (11.8 g.) is reduced with 6.25 g. Sn in 20 cc. HCl (d. 1.19), the Sn removed with H$_2$S and the resulting *p*-aminobenzoyllupinine (II) recryst. from 50% alc., m. 162-3°. Yield 5.6 g. II is insol. in petr. ether and H$_2$O and slightly soln. in Et$_2$O and more sol. in alc. R.B.

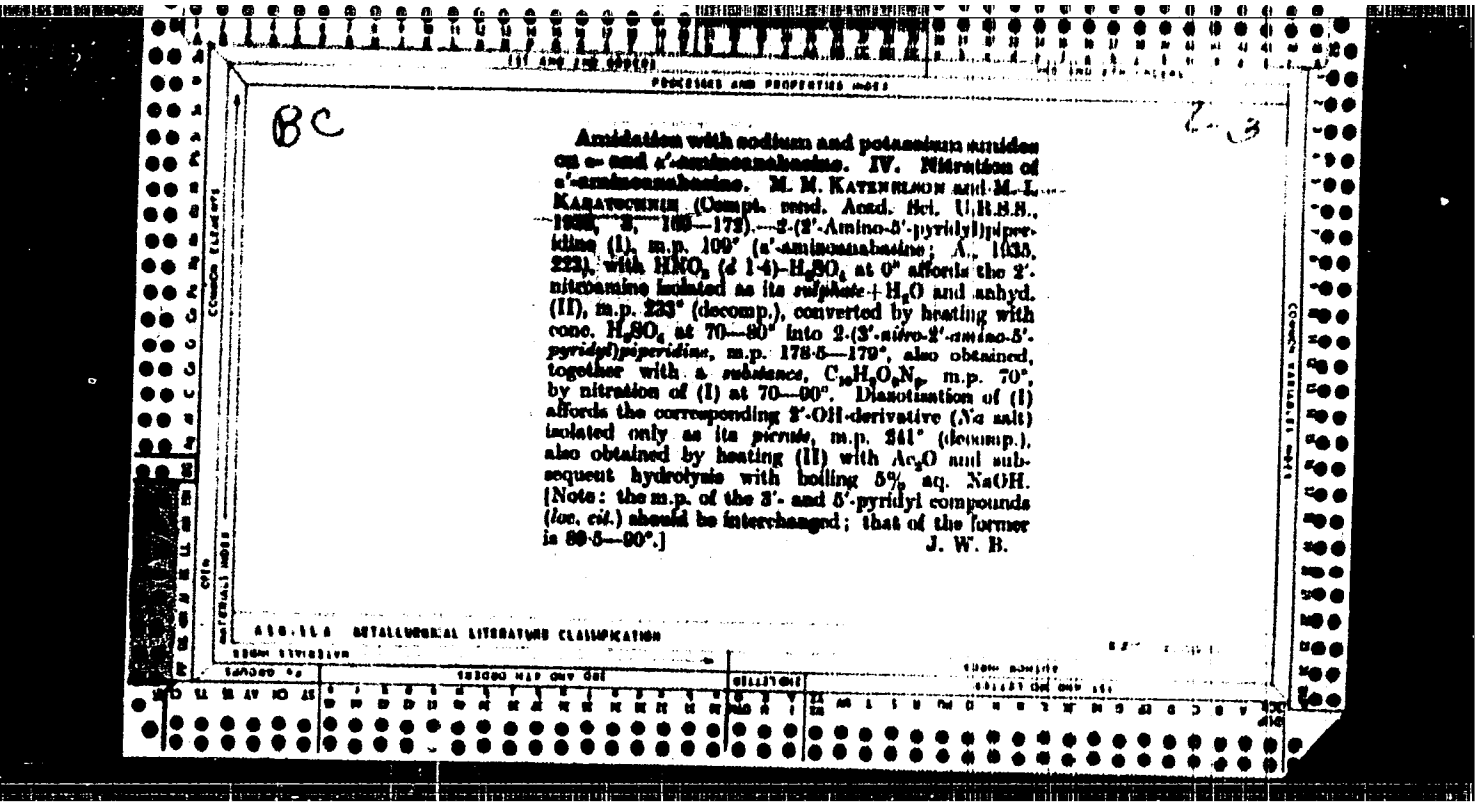


CA

19

Amination of alkaloids with sodium and potassium amides. III. The structure of chloroanabasine isomers. M. I. Kabachnik and M. M. Kaganskaya. *Compt. rend. acad. sci. U. R. S. S.* 2, 35-9(in English 39-41)(1935); cf. *C. A.* 29, 2171[1].—K. and K. had prepd. 2 isomers which they called *α-chloroanabasine* (I), m. 58.5-9.5°, b_{15} 126°, and *α'-chloroanabasine* (II), m. 99.5-100°. They detd. the structure of each by oxidizing I to *α-chloronicotinic acid*, m. 192-3°, and II to *α'-chloroisonicotinic acid*, m. 197-8°. Then Menshikov, Grigorovich and Orechov (*C. A.* 28, 6719[9]) described the prepn. of a chloroanabasine, m. 98-9°, by a different method and assigned to it the structure of I. They also prepd. a liquid *N-methyl-chloroanabasine* (III), b_{15} 139-9°, by still a different method and assumed that it was a deriv. of I. K. and K. have repeated their work and are certain, from the m. p. and the fact that M., G. and O. were vague in their proof of structure, that the 1st product had the structure of II and not of I. K. and K. had insufficient I to prep. the *N*-Me deriv. but they made *N-methyl-α'-chloroanabasine* (IV), m. 46-7°, b_{15} 160-2°, from II. This leaves doubt as to the structure of III, for it may have been impure IV or an isomer.

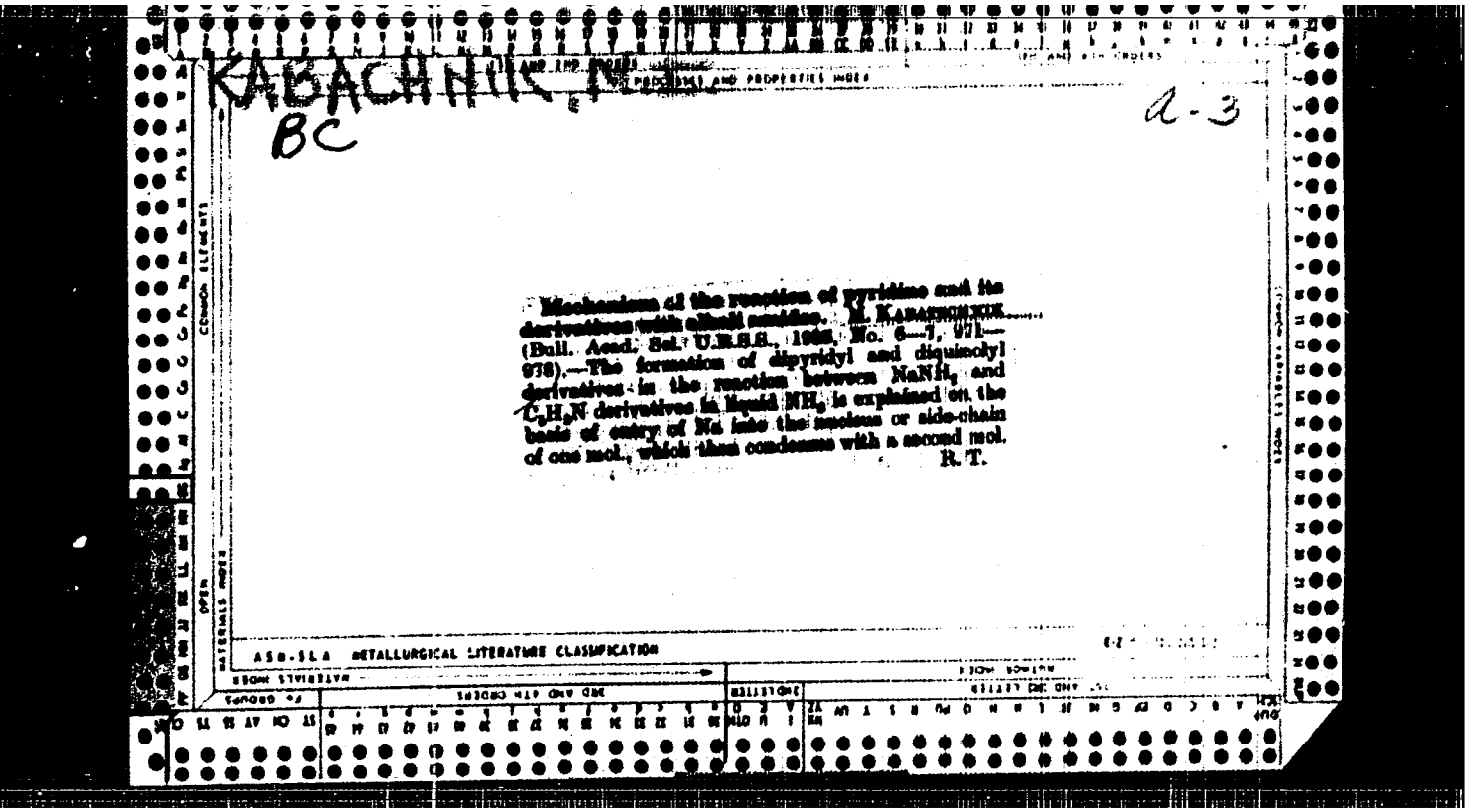
John E. Milbery



BC

Z-3

Amidation with sodium and potassium amides on α- and α'-aminoanabasine. IV. Nitration of α'-aminoanabasine. M. M. KATSNELSON and M. L. KARAVOCHKIN (Compt. rend. Acad. Sci. U.R.S.S., 1938, 2, 165—172).—2-(2'-Amino-5'-pyridyl)piperidine (I), m.p. 109° (α'-aminoanabasine; A., 1935, 223), with HNO_3 (*d* 1·4)-H_2SO_4 at 0° affords the 2'-nitroamine isolated as its *sulphate* + H_2O and anhyd. (II), m.p. 223° (decomp.), converted by heating with conc. H_2SO_4 at 70—80° into 2-(3'-*nitro*-2'-*amino*-5'-*pyridyl*)*piperidine*, m.p. 178·5—179°, also obtained, together with a *substance*, $C_{10}H_{13}O_6N_5$, m.p. 70°, by nitration of (I) at 70—90°. Diazotisation of (I) affords the corresponding 2'-OH-derivative (*Na* salt) isolated only as its *picrate*, m.p. 241° (decomp.), also obtained by heating (II) with Ac_2O and subsequent hydrolysis with boiling 5% aq. NaOH. [Note: the m.p. of the 3'- and 5'-pyridyl compounds (*loc. cit.*) should be interchanged; that of the former is 89·5—90°.] J. W. B.



KABACHNIK, I.

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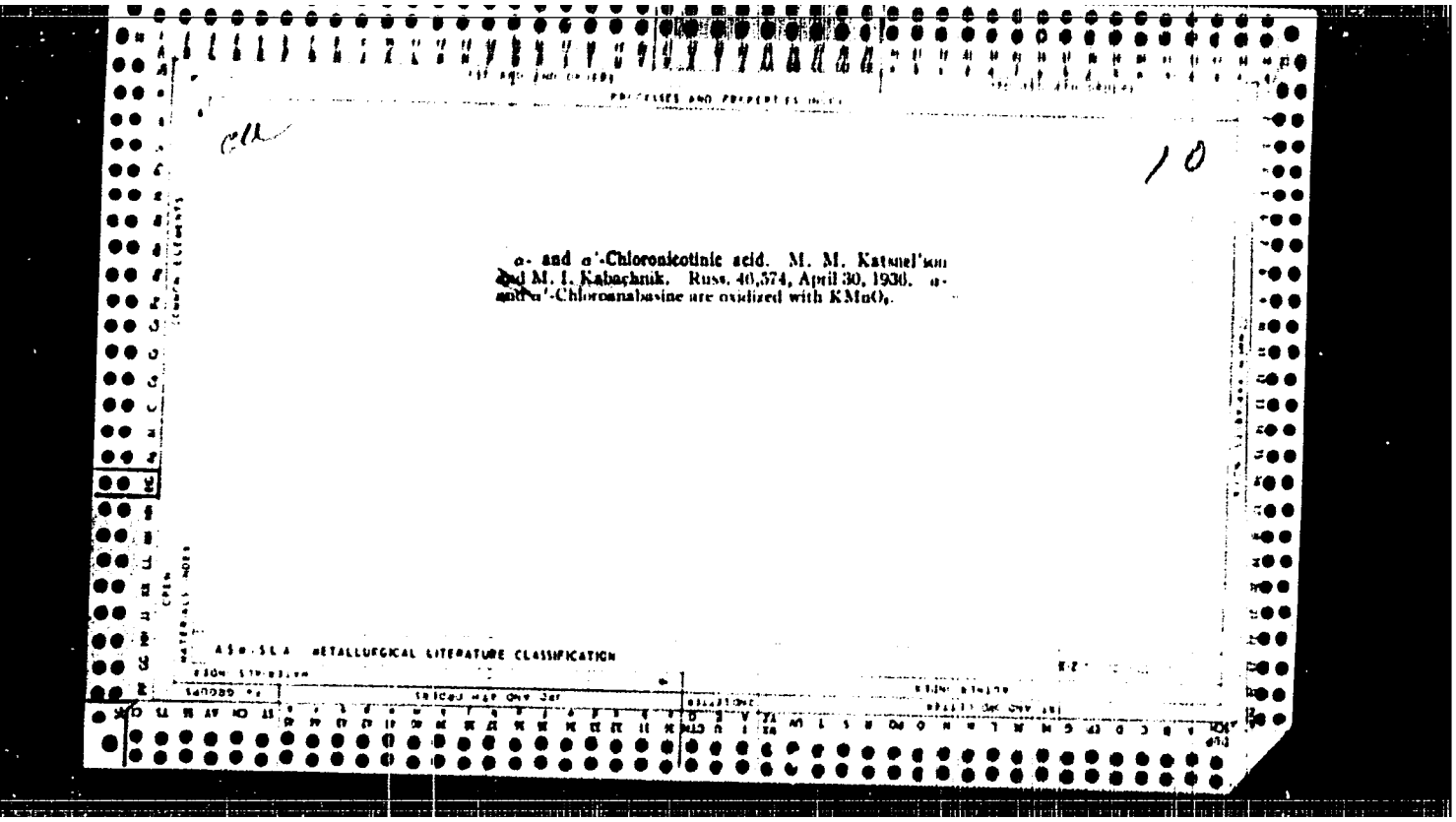
a-3

Mechanism of the reaction of pyridine and its derivatives with alkali amides. M. KABACHNIK..... (Bull. Acad. Sci. U.R.S.S., 1948, No. 6—7, 971—978).—The formation of dipyridyl and diquinolyl derivatives in the reaction between $NaNH_2$ and C_5H_5N derivatives in liquid NH_3 is explained on the basis of entry of Na into the nucleus or side-chain of one mol., which then condenses with a second mol. R. T.

ASE-SLA METALLURGICAL LITERATURE CLASSIFICATION



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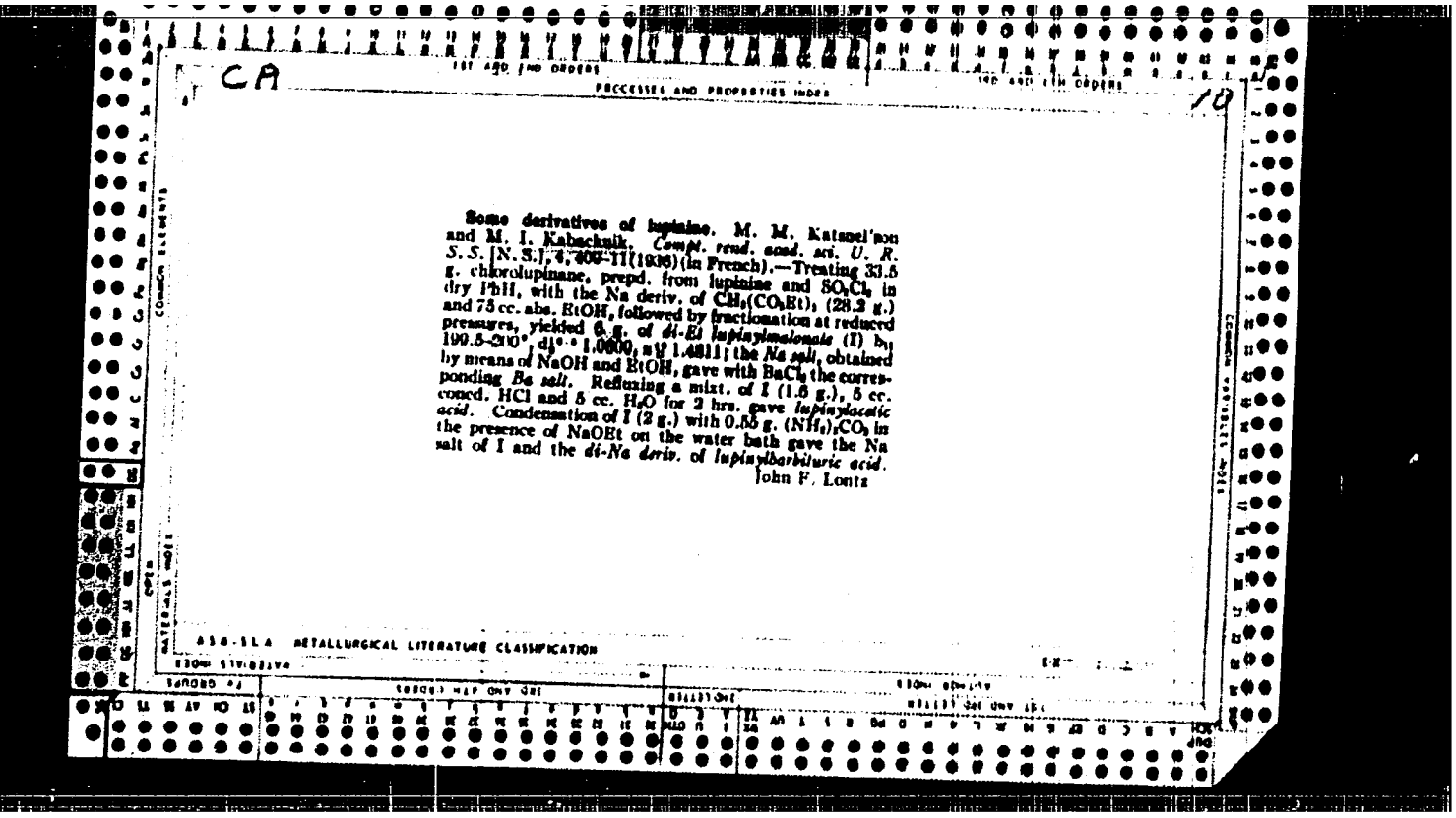
α- and α'-Chloronicotinic acid. M. M. Katsnel'son and M. I. Kabachnik. Russ. 40,574, April 30, 1930. α- and α'-Chloroanabasine are oxidized with $KMnO_4$.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



CA

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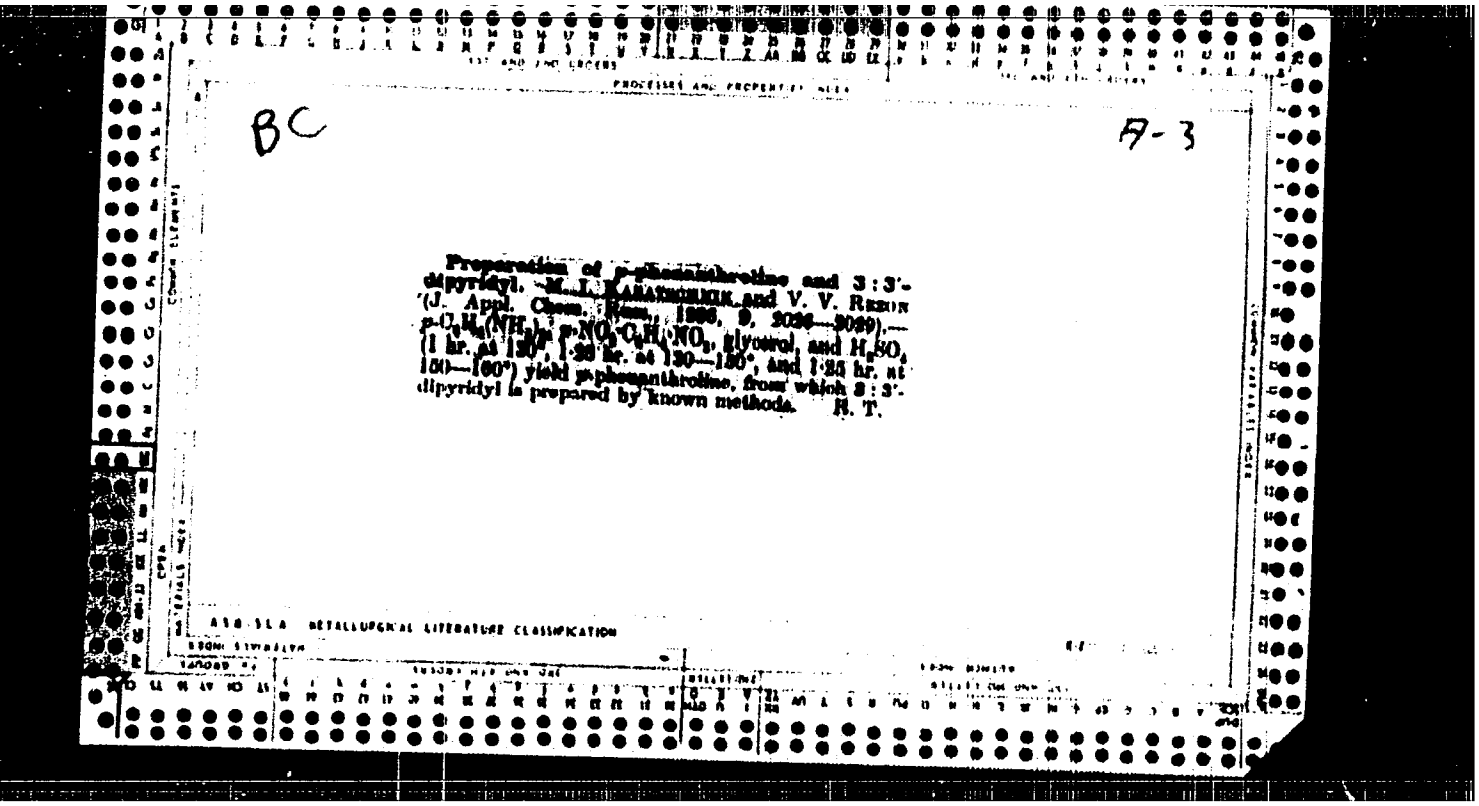
Some derivatives of lupinine. M. M. Katsnel'son and M. I. Kabachnik. *Compt. rend. acad. sci. U. R. S. S.* [N. S.], 4, 409-11 (1936) (in French).—Treating 33.5 g. chlorolupinane, prepd. from lupinine and SO_2Cl_2 in dry PhH, with the Na deriv. of $CH_2(CO_2Et)_2$ (28.2 g.) and 75 cc. abs. EtOH, followed by fractionation at reduced pressures, yielded 6 g. of *di-Et lupinylmalonate* (I) b$_{11}$ 190.5–210°, $d_4^{20.5}$ 1.0800, n_D^{20} 1.4811; the *Na salt*, obtained by means of NaOH and EtOH, gave with $BaCl_2$ the corresponding *Ba salt*. Refluxing a mixt. of I (1.6 g.), 5 cc. concd. HCl and 5 cc. H_2O for 2 hrs. gave *lupinylacetic acid*. Condensation of I (2 g.) with 0.55 g. $(NH_4)_2CO_3$ in the presence of NaOEt on the water bath gave the Na salt of I and the *di-Na deriv.* of *lupinylbarbituric acid*.

John F. Lontz

A56-51A METALLURGICAL LITERATURE CLASSIFICATION

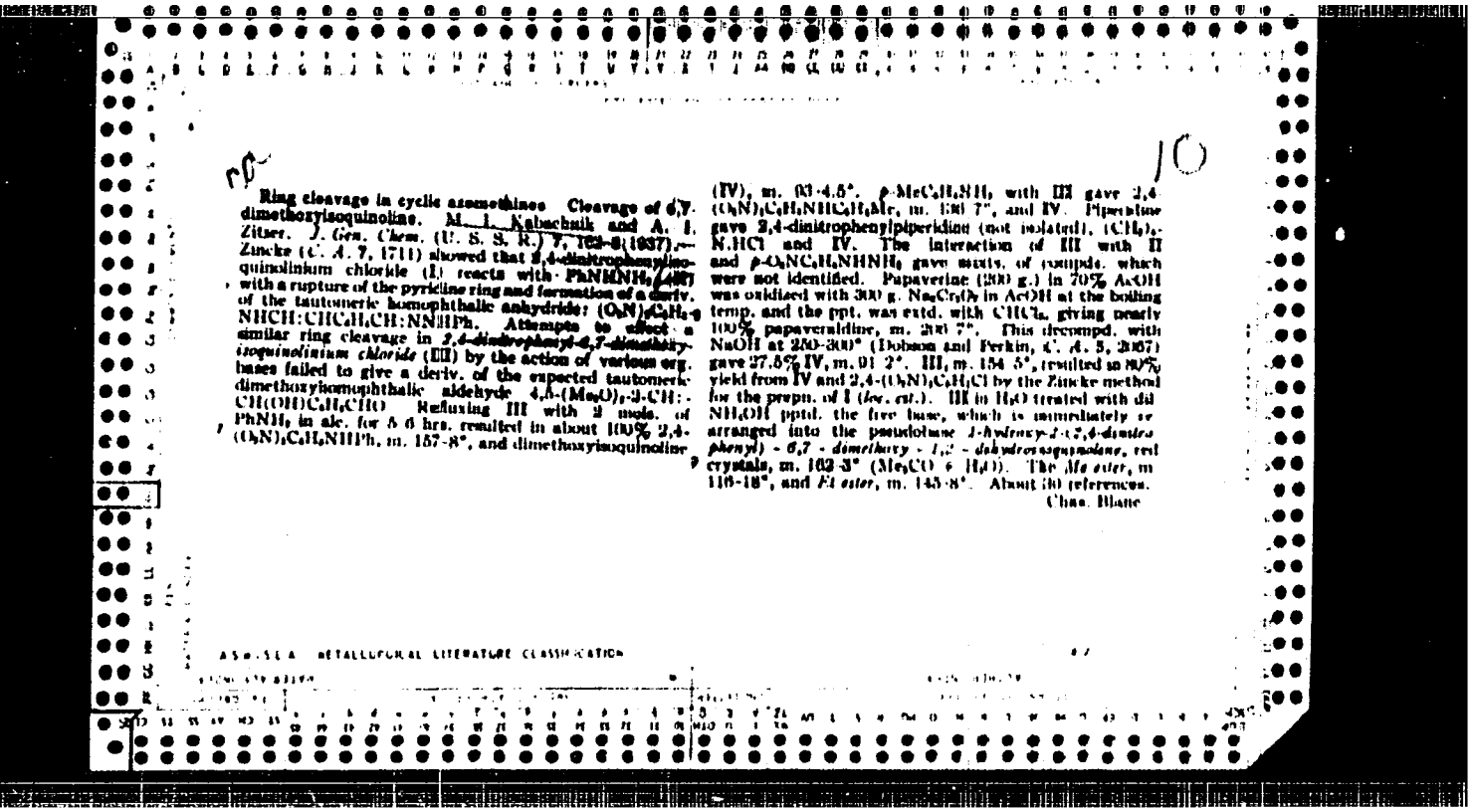


BC

A-3

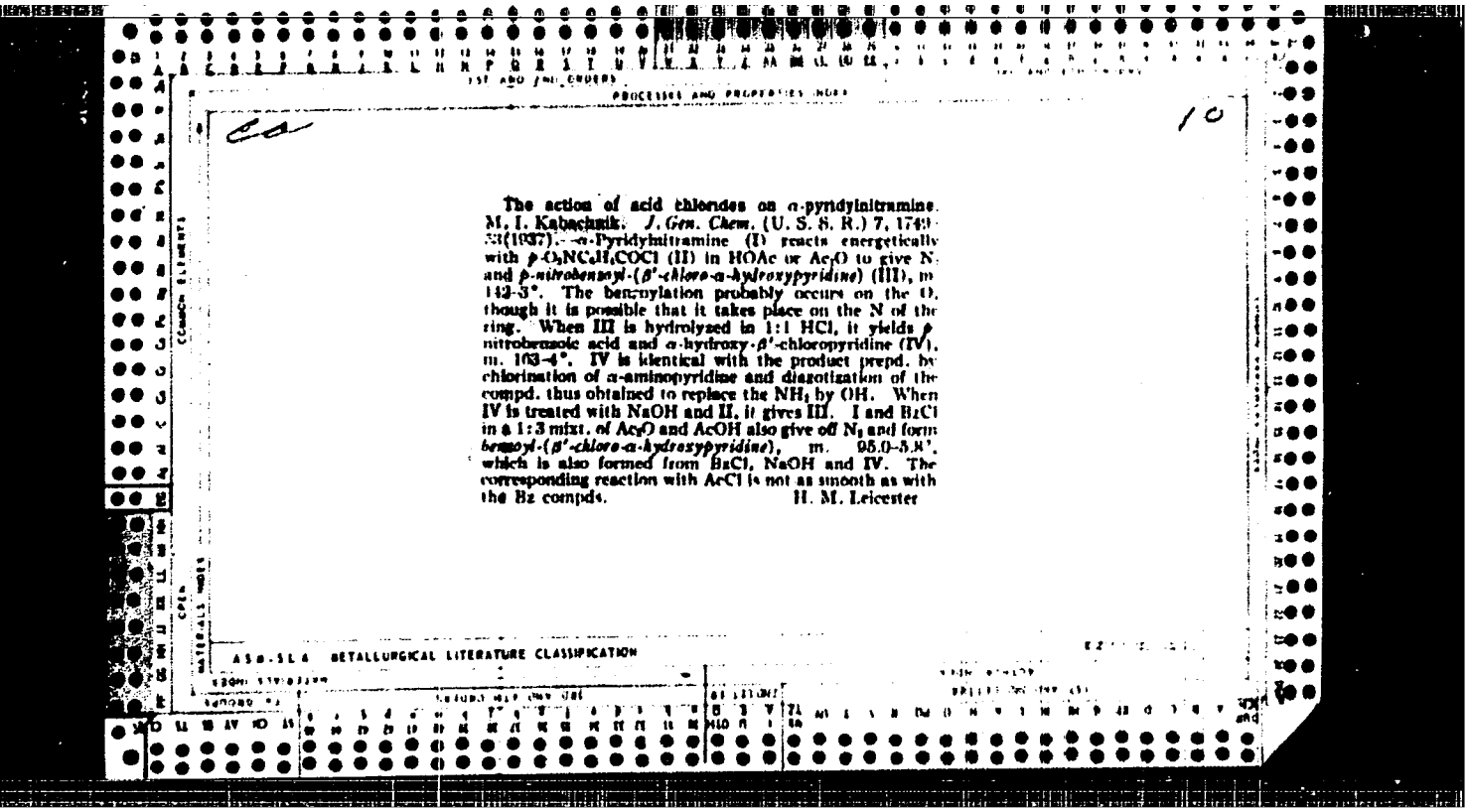
Preparation of p-phenanthroline and 3:3'-dipyridyl. M. I. KABACHNIK and V. V. REBIN (J. Appl. Chem. [Russ.], 1956, 29, 2036—2039).—p-$C_6H_4(NH_2)_2$ or p-$NO_2{\cdot}C_6H_4{\cdot}NO_2$, glyoxal, and H_2SO_4 (1 hr. at 130°, 1·30 hr. at 130—150°, and 1·35 hr. at 150—160°) yield p-phenanthroline, from which 3:3'-dipyridyl is prepared by known methods. R. T.

ASTIA METALLURGICAL LITERATURE CLASSIFICATION



Ring cleavage in cyclic azomethines. Cleavage of 6,7-dimethoxyisoquinoline. M. I. Kabachnik and A. I. Zitser. *J. Gen. Chem.* (U. S. S. R.) 7, 163-8 (1937).—Zincke (*C. A.* 7, 1711) showed that 2,4-dinitrophenylisoquinolinium chloride (I) reacts with $PhNHNH_2$ (II) with a rupture of the pyridine ring and formation of a deriv. of the tautomeric homophthalic anhydride: $(O_2N)_2C_6H_3NHCH{:}CHC_6H_3CH{:}NNHPh$. Attempts to effect a similar ring cleavage in *2,4-dinitrophenyl-6,7-dimethoxyisoquinolinium chloride* (III) by the action of various org. bases failed to give a deriv. of the expected tautomeric dimethoxyhomophthalic aldehyde $4,5\text{-}(MeO)_2\text{-}2\text{-}CH{:}CH(OH)C_6H_3CHO$. Refluxing III with 2 mols. of $PhNH_2$ in alc. for 5-6 hrs. resulted in about 100% 2,4-$(O_2N)_2C_6H_3NHPh$, m. 157-8°, and dimethoxyisoquinoline (IV), m. 93-4.5°. *p*-$MeC_6H_4NH_2$ with III gave 2,4-$(O_2N)_2C_6H_3NHC_6H_4Me$, m. 130-7°, and IV. Piperidine gave 2,4-dinitrophenylpiperidine (not isolated), $(CH_2)_5NHCl$ and IV. The interaction of III with II and *p*-$O_2NC_6H_4NHNH_2$ gave mixts. of compds. which were not identified. Papaverine (200 g.) in 70% AcOH was oxidized with 300 g. $Na_2Cr_2O_7$ in AcOH at the boiling temp. and the ppt. was extd. with $CHCl_3$, giving nearly 100% papaverinidine, m. 201-7°. This decomposed with NaOH at 250-300° (Dobson and Perkin, *C. A.* 5, 2067) gave 27.5% IV, m. 91-2°. III, m. 154-5°, resulted in 80% yield from IV and 2,4-$(O_2N)_2C_6H_3Cl$ by the Zincke method for the prepn. of I (*loc. cit.*). III in H_2O treated with dil. NH_4OH ppt'd. the free base, which is immediately rearranged into the pseudobase *1-hydroxy-2-(2,4-dinitrophenyl)-6,7-dimethoxy-1,2-dihydroisoquinoline*, red crystals, m. 162-3° (Me_2CO + H_2O). The *Me ester*, m. 116-18°, and *Et ester*, m. 145-8°. About 30 references.

Chas. Blanc



Ca

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The action of acid chlorides on α-pyridylnitramine. M. I. Kabachnik. *J. Gen. Chem.* (U. S. S. R.) 7, 1749-53(1937).—α-Pyridylnitramine (I) reacts energetically with *p*-$O_2NC_6H_4COCl$ (II) in HOAc or Ac_2O to give N- and *p-nitrobenzoyl-(β'-chloro-α-hydroxypyridine)* (III), m. 142-3°. The benzoylation probably occurs on the O, though it is possible that it takes place on the N of the ring. When III is hydrolyzed in 1:1 HCl, it yields *p*-nitrobenzoic acid and α-hydroxy-β'-chloropyridine (IV), m. 163-4°. IV is identical with the product prepd. by chlorination of α-aminopyridine and diazotization of the compd. thus obtained to replace the NH_2 by OH. When IV is treated with NaOH and II, it gives III. I and BzCl in a 1:3 mixt. of Ac_2O and AcOH also give off N_2 and form *benzoyl-(β'-chloro-α-hydroxypyridine)*, m. 95.0-5.8°, which is also formed from BzCl, NaOH and IV. The corresponding reaction with AcCl is not as smooth as with the Bz compds. H. M. Leicester

A58-SL4 METALLURGICAL LITERATURE CLASSIFICATION